

Computer software was also developed to produce tabular summaries of abundance data and applied to each collection after the data were keypunched and edited. These summaries were reviewed by project staff to identify errors in: station designations; numbers of replicates; missing, invalid, or incorrect taxon codes; or seemingly inconsistent identifications or abundances between replicates or closely associated stations. Summaries of the frequencies of occurrences of dates, stations, replicates, and taxon codes were used to confirm that data files were complete and free of redundancies before any collection was incorporated into the master database. In addition, data analyses occasionally revealed errors such as incorrect taxon codes which were immediately corrected in the data base. With such a large data base being continuously generated, these data management procedures are necessary to maintain the validity of the data being incorporated.

Summary

The QA/QC program for the long-term benthic program was effective at identifying systematic errors and assured that the data collected were comparable among dates and stations. When error rates were not within a range considered acceptable, remedial actions were taken.

H. TAXONOMIC OVERVIEW

General

During the course of any long-term biological monitoring program, advances are made in the taxonomy of the biota being studied. These advances result in continual changes to the species list for the project and must be considered before meaningful interpretation of the results of analyses evaluating changes in long-term distributional patterns. The purposes of this section are to:

- Update the species list to reflect recent advances in taxonomy and changes that have resulted because of increased sampling efforts
- Summarize and document changes in taxonomic names and taxonomic errors that have occurred during the course of the project and make recommendations for incorporating this information into the project database

- Compare the species list with historic data to discover any further taxonomic errors that may have occurred.

Freshwater Fauna

Beginning in July 1984, the Long-term Benthic Program initiated sampling of stations located in the tidal-freshwater portions of the Potomac and Patuxent Rivers (Stations 36, 79, and 80). The fauna of these stations is distinct from that of stations further downstream in the oligohaline and mesohaline habitats. Many taxa in tidal freshwater to oligohaline habitats are extremely difficult for the non-expert to identify to the species level. In many cases, even the expert can identify these biota only to family or genus level. Specialized publications such as those listed in Table IV-25 are required just to classify biota to the family or genus level. We have tried to maintain the level of performance indicated in Tables IV-26 to IV-28 for the freshwater taxa.

Oligochaeta

Oligochaetes are a predominant component of the freshwater fauna, although true estuarine species of oligochaetes also occur in the oligo-to-mesohaline portions of the study area. Despite taxonomic difficulties with this group (see Holland et al. 1986b for further discussion), it is important to separate genera and/or species of oligochaetes to support comparisons of communities among habitats (e.g., tidal freshwater, transitional, and low mesohaline mud) as well as among stations within the tidal freshwater habitat. In the database from July 1984 to August 1985, oligochaetes were not identified past the group level. Since the majority of the freshwater fauna in this study consist of oligochaetes, analysis of the data showed that further identification to genus and species level was needed in order to characterize the fauna and to meet study objectives. Beginning in September 1985, oligochaetes from all stations (freshwater and estuarine) were mounted and identified to the lowest possible taxon. These efforts indicated that in the mesohaline and oligohaline portions of the study area, oligochaete species composition is limited primarily to three species of Tubificoides, and identification past the genus level in these regions is not necessary to meet the study objectives. Therefore, beginning in May 1986 and continuing to the present all mesohaline and oligohaline oligochaetes are examined prior to mounting, all Tubificoides sp. are identified and counted, and all other genera of oligochaetes are slide mounted and identified to the lowest possible taxonomic levels. All freshwater oligochaetes are mounted and identified to the lowest taxon possible.

Chironomidae

The chironomids, which are frequently abundant in tidal freshwater and oligohaline samples, are identified only to genus. Species identifications within this group are particularly difficult. Much of this difficulty results because chironomids are aquatic only as larvae, and their taxonomy is complete, in many cases, only for adults. For other species, only the taxonomy of the larvae has been described. Difficulties also arise from the nature of the morphology of the larvae themselves. Chironomid larvae undergo four molts before entering the pupal stage. Changes in morphology and size, and thus taxonomically useful characters, occur at each molt. The principal published keys for chironomidae treat only fourth instar larvae and extreme care must be taken when applying these keys to younger larvae. Recent authors (Lindeberg and Wiederholm 1979) have concluded that identification of the species in the genus Chironomus are not possible from larval morphology alone.

Taxonomic Corrections and Updates

The taxonomy of marine/estuarine organisms, particularly of groups such as the benthos which are the subject of intense study, is continually revised and updated. Incorporating these changes into our database makes our taxonomy compatible with that of other investigators, and identifies and documents errors in the long-term data record.

A list of marine/estuarine species collected in the Long-term Benthic program from July 1980 through July 1987 is presented in Table IV-29. Taxonomic revisions affecting species collected in the Long-term Benthic program are listed in Table IV-30. These revisions bring the long-term benthic species list into line with that of other workers in the field. They also facilitate comparisons of our data to that collected in other studies.

During the course of the long-term benthic program, individuals of one species have sometimes been mistakenly identified and counted with individuals of another species, or incorrectly classified in a taxon to which they did not belong. For example prior to 1985, the capitellid polychaetes Amastigos caperatus and Mediomastus ambiseta, which usually occur at salinities above 15 ppt, were historically mis-identified as the more familiar mesohaline polychaete Heteromastus filiformis. In the case of some species, these errors occurred because separation of morphologically similar species were made on the basis of inadequate examinations of specific characters. For example, identification of species belonging to the genus

Gammarus did not include dissection and examination under a compound miscroscope. Also, the two species of Polydora which from Chesapeake Bay samples are very similar in morphological characteristics and the identification procedures used for routine sample processing do not adequately separate them. For this reason, all Polydora sp. collected since 1984 have been identified as Polydora cornuta.

Other errors occur or are created by inadequacies or advancements in the literature. For example, both Tellina agilis and Macoma mitchelli occur at many of our sample sites. The absence of literature on juvenile characteristics of these species, however, makes it difficult to identify juveniles to the genus or species level with confidence. Furthermore, identification of small juveniles of T. agilis and M. mitchelli requires dissection and examination of hinge teeth. This process is not only time consuming but also destroys specimens and this interferes with our ability to calculate biomass and production.

There is a historic controversy regarding the separation of two species of Leitoscoloplos (previously Scoloplos, including L. fragilis and L. robustus). The species separation was difficult and inconsistent among experts with some taxonomists regarding both as a single species. As a result, individuals in the Leitoscoloplos genus were all recorded as L. fragilis in the historic database. Based on a recent review of this genus (Mackie 1987) it is believed that two species, L. fragilis and L. robustus, actually occur in the study region. However, individuals are still difficult to separate because entire adults are required to complete identifications to the species level. Juveniles and fragmented adults can only be reliably identified to the genus level. Therefore, beginning in March 1987, whole adults were identified and recorded to the species level and all other specimens were identified to the genus level. For data analysis, all organisms were grouped at the genus level in order to make the recent data comparable to the historic database.

A complete list of taxonomic errors of this type known to have been made throughout the course of the long-term benthic program has been compiled and summarized in Table IV-31.

Table IV-1. Bottom water salinity (ppt) measured at long-term benthic monitoring stations in Chesapeake Bay, July 1984 to October 1987. Dashes indicate missing data.

Station	Average Station Depth	1984			1985			Jan/ Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Dec
		Jul	Aug	Sep	Oct/ Nov	Dec											
01	2.3	8.57	10.81	14.81	16.87	15.1	16.4	14.7	13.1	13.5	13.8	15.3	18.3	18.7	17.7	16.0	
02	6.1	8.96	11.83	15.10	16.58	15.1	16.1	14.6	12.7	13.9	14.0	15.5	19.0	18.8	17.7	17.0	
03	13.6	10.84	23.17	15.55	21.61	17.6	16.4	17.8	15.0	14.3	20.1	17.8	20.3	21.9	20.8	18.3	
04	28.3	17.79	23.76	21.20	24.65	22.9	17.9	21.0	20.4	20.4	14.2	18.4	23.9	25.2	23.2	19.9	
05	3.0	8.58	10.35	15.65	16.83	16.5	16.2	14.9	12.3	14.1	13.0	15.5	17.1	19.3	18.5	14.4	
06	2.9	8.40	11.15	14.90	16.30	14.9	16.1	14.7	12.7	13.5	13.8	16.2	18.7	18.0	17.6	17.0	
07	5.7	8.82	12.75	14.62	16.39	15.3	16.0	14.8	12.1	13.7	14.5	15.3	19.0	18.7	17.5	16.6	
08	12.4	8.85	23.28	16.73	19.31	15.6	15.9	17.2	16.8	14.1	19.8	17.6	19.4	18.9	17.6	17.6	
09	2.8	8.37	10.59	14.52	16.52	15.0	15.9	14.0	12.8	13.4	13.8	15.7	18.6	17.9	17.6	15.6	
10	6.5	8.41	14.55	14.52	16.54	14.9	15.9	14.1	12.0	13.9	13.8	14.9	19.0	19.0	17.6	15.3	
11	12.2	8.72	23.10	16.65	20.87	15.9	16.2	16.9	17.2	14.3	19.9	17.8	20.6	19.7	17.8	17.9	
12	2.1	7.58	8.93	14.05	15.82	14.3	15.6	13.3	12.2	13.1	13.6	14.8	17.6	17.2	17.2	16.5	
13	5.8	7.62	11.98	14.12	16.01	14.3	15.4	14.0	12.9	13.3	13.9	14.9	17.7	18.4	17.2	16.8	
14	11.7	9.15	23.32	15.35	17.62	15.6	16.0	16.9	17.5	13.8	21.0	17.4	19.3	20.0	18.0	17.6	
15	2.2	7.55	8.52	13.40	15.36	13.7	14.6	13.4	8.2	13.0	12.8	14.0	16.5	18.0	16.6	12.6	
16	13.7	12.92	18.62	15.45	19.72	17.4	15.1	17.0	17.5	13.2	19.3	19.8	17.5	18.3	17.9	18.3	
17	26.7	15.82	21.67	19.45	23.70	21.6	17.5	21.9	20.7	18.6	19.5	23.8	22.8	24.5	22.1	19.4	
18	2.7	7.00	14.19	14.32	16.13	14.3	14.9	12.9	11.2	13.0	12.3	14.8	16.2	18.8	17.3	14.3	
19	3.1	5.89	9.56	12.72	14.68	12.2	13.9	11.2	7.6	12.2	11.8	13.7	15.4	17.5	16.0	11.5	
20	10.6	10.25	21.33	15.50	18.26	16.1	14.3	13.4	14.7	13.2	14.4	17.7	15.9	18.0	16.0	16.7	
21	26.8	15.45	22.33	19.40	23.13	20.8	16.7	20.2	20.3	18.0	19.8	22.7	23.8	23.9	21.6	18.9	
22	3.9	3.05	10.53	10.50	11.18	10.5	-	9.7	7.3	8.0	7.8	9.2	11.9	13.9	12.6	7.2	
23	5.5	3.50	13.02	11.19	11.81	10.1	-	9.3	6.8	8.0	8.7	10.0	12.9	13.9	12.6	8.4	
24	6.5	4.45	18.32	14.31	12.67	14.6	-	10.0	14.4	8.2	12.3	10.0	13.3	13.8	14.7	11.2	
25	7.0	4.68	20.00	12.18	16.53	12.0	-	11.8	9.0	11.9	10.1	11.6	14.0	18.3	15.0	14.6	
26	4.0	0.36	3.43	7.26	8.75	4.1	-	3.4	3.0	3.5	5.3	5.8	10.1	10.5	9.1	3.6	
27	5.8	0.09	1.63	3.01	4.76	0	-	0	0.1	0.6	0	0.4	5.0	7.5	0	0	
28	3.6	0.11	0.13	0.16	1.65	0	-	0	0	0	0	0	1.4	4.5	0	0	
29	5.7	0.10	2.27	2.30	5.69	0.8	-	0	0	1.6	0.1	0.5	3.6	6.9	2.5	0.2	
30	2.5	0.18	0.19	0.19	0.27	0	-	0	0	0	0	0	0	0	0	0	
31	5.7	0.17	0.14	0.53	1.83	0	-	0	0	0	0	1.8	1.1	3.9	0	0	
32	2.2	1.80	0.49	4.13	4.53	3.2	-	0.9	1.6	1.7	0.8	4.9	4.4	7.6	1.3	0.4	
33	8.0	2.35	0.15	4.26	5.73	3.6	-	0.4	1.6	1.9	0.1	5.2	3.8	8.2	1.6	1.8	
34	2.5	4.53	5.17	9.18	8.65	9.6	11.0	5.6	6.3	5.4	4.3	10.0	8.8	13.2	8.5	5.3	
35	12.8	4.60	9.39	9.50	10.94	13.6	14.0	8.6	11.6	9.7	9.4	12.5	12.1	14.2	15.6	11.0	

Table IV-1. Continued

Station	Average Station Depth	1984						1985							
		Jul	Aug	Sep	Oct/ Nov	Jan/ Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
45	2.5	5.00	5.76	9.15	8.66	9.4	10.2	6.6	5.1	5.7	10.2	9.3	13.5	8.7	5.5
46	13.5	5.20	9.88	9.62	10.58	12.7	12.8	8.9	10.5	12.7	11.6	14.6	15.7	11.3	
47*	2.3	4.78	6.57	9.32	8.95	9.7	11.2	6.7	6.0	5.3	6.8	10.02	9.4	13.6	8.6
48	18.3	5.45	9.74	9.67	11.10	12.8	14.0	8.9	11.1	11.2	10.6	12.9	12.5	14.1	16.2
49	2.2	4.97	5.76	9.78	10.27	10.5	11.9	8.6	6.7	6.1	7.5	11.1	11.1	14.4	8.6
50	13.8	6.60	9.42	9.65	11.62	13.4	13.6	9.6	10.9	11.6	10.3	13.2	13.2	15.0	16.9
51	2.5	7.40	6.16	10.91	14.11	11.1	14.4	11.8	10.7	10.6	9.2	13.2	13.6	17.5	9.0
52	10.9	11.25	15.27	13.30	15.82	16.6	16.2	15.6	13.8	14.6	14.9	17.3	17.3	16.3	19.0
53	2.7	10.42	11.32	13.82	16.06	16.9	16.8	15.1	14.5	14.3	15.3	15.2	17.6	19.9	19.2
54	12.9	11.15	21.39	17.42	17.50	17.9	16.3	17.0	15.6	17.0	16.6	20.2	19.1	19.9	19.3
55	2.8	10.08	11.44	14.52	16.67	17.1	16.1	16.8	14.5	15.4	14.4	16.0	17.5	18.7	19.4
56	7.2	9.82	17.21	14.96	16.75	16.7	16.1	17.1	15.0	15.4	14.6	16.9	17.8	19.2	19.4
57	13.5	12.00	22.02	16.65	18.90	18.4	16.5	16.9	14.7	17.5	18.8	21.0	19.9	20.0	19.8
58	31.4	20.10	25.13	21.25	25.13	21.2	17.5	21.0	21.0	21.3	21.0	24.2	23.4	24.6	23.9
59	2.7	10.70	11.25	15.43	17.22	16.7	16.1	16.7	14.8	14.7	16.4	17.6	17.9	19.7	19.0
60	2.6	13.00	15.86	17.09	19.71	17.5	16.6	18.0	17.1	18.3	18.2	18.9	19.7	20.8	18.0
61	5.4	9.65	15.05	14.75	16.68	15.9	-	15.5	15.0	16.2	16.1	17.5	17.4	18.4	18.0
62	6.9	2.34	6.25	8.05	9.18	9.6	-	8.1	4.3	7.2	8.0	11.3	9.4	10.1	8.2
63	7.9	7.80	17.46	14.95	15.86	14.2	-	14.4	12.9	13.3	13.0	14.8	15.7	17.5	17.8
64	9.3	6.65	14.48	13.10	14.73	13.6	-	12.3	11.8	12.5	12.6	12.9	14.1	15.5	16.9
65	3.1	3.50	6.07	9.21	11.73	10.9	-	9.0	8.5	9.6	-	-	-	-	13.0
66	2.7	0.23	0.39	1.42	2.76	1.0	-	0	0	0	0	-	-	-	11.6
67	6.8	4.55	14.24	11.80	12.82	11.6	-	10.2	10.0	10.9	11.0	11.6	12.9	14.9	12.0
68	5.9	2.78	12.43	10.31	11.94	9.4	-	8.3	8.3	9.5	10.1	9.7	11.0	12.9	11.5
70	16.8	9.42	17.04	14.76	17.13	15.9	16.5	15.5	15.2	16.3	17.9	19.0	18.8	17.9	15.9
71	15.4	8.70	19.19	13.72	15.93	16.1	15.2	14.7	13.3	14.2	15.6	15.3	17.5	17.9	15.1
72	2.3	6.46	9.43	11.66	13.28	12.7	12.8	11.8	11.7	11.3	11.2	13.2	14.2	13.6	13.1
73	2.7	5.10	8.99	11.08	11.47	13.0	12.14	10.5	11.1	10.2	11.1	12.7	13.4	12.3	12.3
74	2.7	3.65	6.54	10.40	11.31	11.8	12.72	8.3	8.2	8.6	7.2	12.1	13.3	10.0	11.9
75	2.3	2.89	5.71	10.69	8.60	10.2	11.36	7.1	7.8	6.6	7.9	11.0	10.5	8.0	9.2
76	2.6	2.40	4.17	8.95	8.33	11.3	11.32	10.0	5.1	5.9	6.3	10.7	12.0	6.3	7.8
77	2.7	0.82	2.82	7.75	5.46	6.5	4.0	5.4	3.9	5.7	8.4	6.6	2.8	4.1	4.9
78	2.5	0.21	0.18	4.84	2.68	2.5	-	2.7	0.7	1.0	0.4	3.7	4.2	0	0.3
79	2.4	0.10	0.09	0.62	0.34	0	-	0	0	0	0	0	0.2	0	0
80	2.3	0.12	0.10	0.12	0.10	0.18	0.19	0	0	0	0	0	0	0	0

* Station 47 relocated in April 1985

Table IV-1. Continued

Station	Average Station Depth	1986										1987				
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr			
01	2.3	12.9	14.4	8.6	10.3	13.3	14.2	16.0	16.6	12.5	15.1	12.7	8.7			
02	6.1	12.8	14.5	9.8	9.9	14.4	14.4	17.0	16.4	13.1	16.9	12.4	9.1			
03	13.6	17.8	15.5	20.2	15.8	18.5	21.8	20.8	18.4	18.4	16.5	19.5	20.0			
04	28.3	20.2	18.9	22.1	18.4	20.9	22.6	22.0	25.4	22.1	-	21.2	21.5			
05	3.0	13.9	13.6	11.3	11.0	13.2	16.0	16.8	19.0	14.6	-	16.2	16.8			
06	2.9	12.7	14.6	8.6	10.4	13.0	14.0	16.3	16.4	12.5	15.2	12.1	10.6			
07	5.7	13.0	15.2	10.2	9.9	14.1	14.2	16.9	16.4	12.3	16.0	11.8	8.9			
08	12.4	13.6	16.3	19.4	15.5	18.0	21.6	19.9	16.7	17.9	16.1	18.6	18.4			
09	2.8	12.4	14.4	8.6	10.1	13.5	14.0	15.6	17.1	12.0	15.3	11.7	9.0			
10	6.5	12.6	14.8	9.4	10.2	14.9	13.9	16.6	16.1	12.2	16.1	12.1	8.4			
11	12.2	13.1	16.7	18.6	15.3	18.6	21.4	19.9	16.3	18.3	15.8	18.4	18.6			
12	2.1	12.0	14.7	8.2	9.4	13.2	13.9	15.3	16.0	12.5	15.2	11.3	8.0			
13	5.8	12.0	15.1	9.4	10.8	13.6	13.9	15.7	16.1	12.6	15.3	11.3	8.3			
14	11.7	13.8	16.9	20.9	14.9	18.6	20.6	20.6	16.5	18.6	16.4	18.5	17.0			
15	2.2	10.9	13.8	8.3	9.4	12.0	12.7	15.6	16.0	13.7	14.3	9.6	6.5			
16	13.7	18.0	15.7	18.8	17.2	16.7	20.8	17.5	23.8	19.4	16.5	18.0	19.3			
17	26.7	19.5	19.1	21.2	18.4	19.6	22.4	20.9	24.3	20.2	19.1	21.5	20.5			
18	2.7	11.0	12.6	8.9	10.0	11.7	12.8	16.2	18.4	13.0	-	16.5	13.5			
19	3.1	11.8	12.9	8.3	9.2	12.0	11.5	14.5	16.1	13.7	-	10.0	4.5			
20	10.6	12.3	13.9	16.9	10.0	13.5	18.8	16.7	17.9	-	18.0	16.8				
21	28.8	18.7	19.1	20.5	17.9	19.3	22.1	20.3	23.8	18.4	-	21.1	20.2			
22	3.9	9.9	11.7	8.5	9.5	7.9	9.3	11.1	13.9	11.9	-	11.1	9.1			
23	5.5	9.9	10.6	8.9	9.7	8.2	10.4	11.3	13.8	11.1	-	11.5	8.8			
24	6.5	10.6	10.5	13.7	14.6	8.3	15.3	13.5	18.5	16.9	-	17.3	13.2			
25	7.0	11.6	11.1	14.8	-	10.8	16.0	13.1	15.3	17.2	-	15.9	13.6			
26	4.0	2.6	5.6	2.5	1.5	2.5	4.4	8.6	10.4	4.4	-	6.0	0.1			
27	5.8	-	0	0	0	0	0.7	3.5	5.8	0.4	-	1.5	0.0			
28	3.6	-	0	0	0	0	0.0	0.4	2.9	0.0	-	1.1	0.0			
29	5.7	-	0	0	0.1	0	1.3	1.6	3.7	0.0	-	2.0	0.0			
36	2.5	0	0	0	0	0	0.0	0.0	0.0	0.0	-	0.0	0.0			
38	5.7	0	0	0	0	0	0.2	4.6	4.6	2.1	-	0.0	0.0			
39	2.2	3.9	1.9	0.1	2.5	3.7	6.5	7.0	8.3	5.9	-	1.9	2.2	0.6		
40	8.0	1.9	3.1	0.9	4.0	3.5	6.7	7.4	8.5	7.5	1.1	4.7	3.3			
43	2.5	9.2	7.0	4.2	5.4	8.4	9.9	10.9	12.5	11.0	8.1	8.5	4.4			
44	12.8	8.3	6.1	9.5	10.3	14.2	11.3	13.5	13.3	10.1	11.1	14.5				

Table IV-1. Continued

Station	Average Station Depth	1986					1987				
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep'	Nov	Dec	Jan
45	2.5	9.9	7.3	4.1	6.3	9.1	10.2	11.1	13.0	10.4	8.2
46	13.5	8.9	7.9	6.4	8.7	10.8	12.5	11.3	13.7	10.2	11.1
47*	2.3	9.4	7.1	4.0	6.4	8.7	10.6	11.1	13.1	10.5	7.3
48	18.3	10.8	8.3	6.7	10.1	10.3	14.2	11.4	13.3	14.2	10.7
49	2.2	10.7	7.4	5.4	6.8	9.1	11.5	11.7	13.8	12.2	10.6
50	13.8	10.5	8.2	7.2	10.2	10.7	14.9	-	13.8	14.3	10.7
51	2.5	12.7	10.7	8.9	11.3	10.6	14.0	15.4	15.9	14.5	10.8
52	10.9	13.2	13.1	11.5	12.9	16.3	18.9	14.4	16.5	17.1	14.5
53	2.7	14.6	13.6	11.4	11.9	13.6	15.3	16.8	18.1	16.7	13.9
54	12.9	15.1	14.0	11.8	14.6	15.2	19.7	17.7	19.1	14.1	16.7
55	2.8	13.9	14.5	11.6	12.8	14.4	15.5	17.0	17.2	16.0	15.6
56	7.2	14.5	14.5	12.4	13.7	14.5	15.8	17.0	17.7	16.1	15.6
57	13.5	15.4	14.6	18.0	14.9	16.0	20.7	17.6	21.2	16.2	17.4
58	31.4	19.4	19.5	21.9	18.8	21.0	23.2	21.8	25.1	23.0	-
59	2.7	14.8	13.8	12.9	14.1	15.0	15.8	17.0	19.2	17.6	-
60	2.6	15.4	15.5	15.9	15.7	16.9	17.4	18.5	21.5	18.7	-
61	5.4	14.2	13.3	13.8	13.7	15.8	15.6	16.4	19.6	17.6	-
62	6.9	3.8	2.9	3.5	6.9	8.6	9.5	10.6	13.4	8.0	-
63	7.9	13.8	12.4	13.6	11.2	12.3	13.2	15.2	18.3	15.9	-
64	9.3	12.8	10.9	11.3	9.6	11.0	11.8	12.9	14.9	14.5	-
65	3.1	-	6.5	8.3	6.9	7.5	10.0	11.3	12.2	10.4	-
66	2.7	-	0	0	0	0.8	3.8	3.3	3.5	0.3	-
67	6.8	10.0	9.7	13.6	-	9.9	11.3	12.3	15.3	11.8	-
68	5.9	8.3	8.1	10.6	-	8.7	10.3	10.9	12.2	11.4	-
70	16.8	13.8	14.1	14.6	15.9	17.0	18.2	17.1	18.4	16.8	-
71	15.4	13.5	13.3	14.1	12.5	14.0	15.0	15.7	16.6	15.3	14.3
72	2.3	12.1	9.6	8.3	9.8	12.6	13.3	13.1	15.5	14.2	12.0
73	2.7	11.8	10.0	7.8	8.6	10.3	12.7	13.2	14.7	13.0	11.8
74	2.7	6.5	8.4	6.6	7.0	9.5	11.8	12.2	13.6	10.8	10.6
75	2.3	9.1	7.6	5.4	6.2	8.9	11.2	11.3	12.7	10.2	9.8
76	2.6	4.8	6.1	3.4	5.0	9.1	11.1	11.7	13.0	8.9	9.4
77	2.7	4.7	4.1	1.4	2.4	7.4	8.9	10.5	11.1	5.6	7.3
78	2.5	0.4	0	0	0	0	2.5	5.1	4.8	6.2	0.2
79	2.4	0	0	0	0	0	0	0.7	1.0	0.6	0.0
80	2.3	0	0	0	0	0	0	0	0	0.0	0.0

* Station 47 relocated in April 1985

Table IV-1. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Sep	Oct
01	2.3	12.6	14.9	12.9	15.2	16.4	
02	6.1	12.5	14.9	13.0	15.1	18.5	
03	13.6	19.1	16.6	18.4	17.8	19.0	
04	28.3	19.6	19.3	19.4	24.6	20.4	
05	3.0	14.2	14.0	14.1	16.3	15.3	
06	2.9	12.4	15.0	12.9	15.0	16.6	
07	5.7	12.6	15.5	13.0	15.0	17.3	
08	12.4	18.5	16.7	17.6	18.4	18.8	
09	2.8	12.4	13.9	12.6	14.6	14.9	
10	6.5	12.4	14.5	12.7	15.0	18.3	
11	12.2	18.4	17.4	17.3	18.4	18.8	
12	2.1	12.3	14.5	12.3	14.3	16.0	
13	5.8	12.3	15.5	12.3	14.6	17.5	
14	11.7	18.5	19.1	17.8	17.7	18.9	
15	2.2	11.7	12.5	11.1	13.9	13.5	
16	13.7	18.2	17.2	16.2	19.2	17.6	
17	26.7	18.4	18.4	18.2	21.8	19.5	
18	2.7	12.7	11.6	13.1	13.8	14.5	
19	3.1	10.8	11.4	10.5	13.4	12.0	
20	10.6	15.5	16.5	14.1	14.5	16.5	
21	28.8	18.5	18.8	17.5	20.3	18.9	
22	3.9	9.1	10.2	7.9	11.5	11.0	
23	5.5	8.9	10.0	8.3	11.1	11.2	
24	6.5	12.9	13.8	10.9	13.0	11.1	
25	7.0	9.6	10.4	11.9	16.6	13.1	
26	4.0	4.6	5.0	3.5	7.5	8.0	
27	5.8	0.2	0.2	0.0	4.5	3.0	
28	3.6	0.0	0.0	0.0	1.2	2.1	
29	5.7	0.8	1.0	1.1	2.0	0.0	
36	2.5	0.0	0.0	0.0	0.0	0.0	
38	5.7	0.0	0.0	0.0	3.2	2.7	
39	2.2	1.4	4.4	3.4	5.8	4.9	
40	8.0	2.7	5.5	3.3	7.3	6.1	
43	2.5	4.9	9.5	9.2	10.2	10.3	
44	12.8	10.8	11.2	10.4	11.1	15.3	

Table IV-1. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Sep	
45	2.5	6.2	8.2	9.5	10.6	11.8	
46	13.5	10.6	10.6	11.2	11.2	13.4	
47*	2.3	6.6	8.6	9.6	10.6	10.9	
48	18.3	11.5	11.4	10.6	11.3	15.1	
49	2.2	9.4	9.0	10.3	10.9	11.7	
50	13.8	11.2	11.7	11.1	11.5	15.7	
51	2.5	7.1	10.2	11.6	14.0	12.0	
52	10.9	14.2	15.1	14.6	15.3	17.8	
53	2.7	13.6	12.4	14.6	16.4	17.7	
54	12.9	19.7	16.9	14.9	16.5	17.9	
55	2.8	13.5	14.6	14.1	15.3	17.4	
56	7.2	15.3	15.2	14.4	15.9	17.7	
57	13.5	19.8	17.6	16.5	17.6	18.8	
58	31.4	22.0	20.6	22.8	25.0	21.5	
59	2.7	15.1	14.4	15.3	16.6	18.7	
60	2.6	18.5	16.8	16.4	18.9	18.3	
61	5.4	14.8	15.4	14.9	16.9	17.7	
62	6.9	4.3	8.4	8.5	11.3	11.6	
63	7.9	13.7	13.2	13.6	14.0	15.4	
64	9.3	11.7	11.2	11.5	12.4	14.3	
65	3.1	9.5	7.8	9.3	10.7	12.0	
66	2.7	0.0	0.0	1.7	-	6.1	
67	6.8	10.5	10.6	10.6	11.8	12.4	
68	5.9	8.9	9.4	9.4	10.4	10.4	
70	16.8	15.6	17.2	15.3	17.0	17.3	
71	15.4	14.4	14.5	13.4	14.8	15.9	
72	2.3	10.4	10.7	12.0	13.0	14.4	
73	2.7	10.4	9.9	11.6	12.1	13.3	
74	2.7	8.6	8.6	10.8	11.3	11.7	
75	2.3	7.5	7.2	10.0	10.3	11.0	
76	2.6	7.2	6.4	9.9	9.3	9.9	
77	2.7	5.6	5.2	5.1	7.1	7.1	
78	2.5	0.6	0.4	1.6	4.1	2.7	
79	2.4	0.0	0.0	0.5	0.0	0.0	
80	2.3	0.0	0.0	0.0	0.0	0.0	

Table IV-2. Classification of stations into salinity zones based on percentage of station visits falling into various salinity classifications (modified from the Venice system for the classification of brackish waters).

STATION	SALINITY ZONE				
	Tidal Freshwater (0-0.5 ppt)	Oligohaline (0.5-5 ppt)	Low Mesohaline (5-10 ppt)	High Mesohaline (10-18 ppt)	Polyhaline (> 18 ppt)
TIDAL FRESHWATER					
36 Upper Potomac River	100.0				
80 Upper Patuxent River	100.0				
TRANSITIONAL FRESHWATER/OLIGOHALINE					
79 Upper Patuxent River	85.7		14.3		
28 Upper Bay	81.5		18.5		
38 Upper Potomac River	67.9		32.1		
66 Upper Choptank River	56.5		43.5		
TRANSITIONAL FRESHWATER/OLIGOHALINE/LOW MESOHALINE					
27 Upper Bay	63.0		29.6	7.4	
29 Upper Bay	44.4		48.1	7.4	
78 Mid-Patuxent River	42.9		50.0	7.1	
39 Mid-Potomac River	10.3		72.4	17.2	
40 Mid-Potomac River	10.3		62.1	27.6	
26 Mid-Bay	7.1		53.6	28.6	10.7

Table IV-2. Continued

STATION	SALINITY ZONE				
	Tidal Freshwater (0-0.5 ppt)	Oligohaline (0.5-5 ppt)	Mesohaline (5-10 ppt)	High Mesohaline (10-18 ppt)	Polyhaline (> 18 ppt)
LOW MESOHALINE					
77	Mid-Patuxent River	40.0	53.3	6.7	
62	Mid-Nanticoke River	21.4	64.3	14.3	
76	Mid-Patuxent River	16.7	60.0	23.3	
43	Mid-Potomac River	16.7	66.7	16.7	
45	Mid-Potomac River	10.0	66.7	23.3	
47	Mid-Potomac River	6.9	69.0	24.1	
65	Upper Choptank River	4.3	65.2	30.4	
68	Lower Chester River	3.7	44.4	51.9	
22	Baltimore Harbor	3.6	50.0	46.4	
23	Baltimore Harbor	3.6	50.0	46.4	
75	Mid-Patuxent River	3.3	60.0	36.7	
49	Mid-Potomac River	3.3	50.0	46.7	
74	Mid-Patuxent River	3.3	46.7	50.0	
HIGH MESOHALINE					
67	Mid-Chester River	3.7	14.8	81.5	
25	Mid-Bay	3.7	7.4	81.5	7.4
44	Mid-Potomac River	3.3	30.0	66.7	
46	Mid-Potomac River		30.0	70.0	
24	Mid-Bay	3.6	14.3	75.0	
19	Calvert Cliffs	3.4	20.7	75.9	
15	Calvert Cliffs		23.3	76.7	
51	Lower Potomac River		23.3	76.7	
50	Mid-Potomac River		20.7	79.3	

Table IV-2 : Continued

STATION	SALINITY ZONE				
	Tidal Freshwater (0-0.5 ppt)	Oligohaline (0.5-5 ppt)	Mesohaline (5-10 ppt)	Low Mesohaline (10-18 ppt)	High Mesohaline (> 18 ppt)
HIGH MESOHALINE (Continued)					
48	Mid-Potomac River		20.0	80.0	
73	Mid-Patuxent River		20.0	80.0	
12	Calvert Cliffs		16.7	83.3	
72	Lower Patuxent River		16.7	83.3	
02	Calvert Cliffs		13.3	80.0	6.7
18	Calvert Cliffs		10.3	82.8	6.9
09	Calvert Cliffs		10.0	86.7	3.3
01	Calvert Cliffs		10.0	83.3	6.7
07	Calvert Cliffs		10.0	83.3	6.7
10	Calvert Cliffs		10.0	83.3	6.7
13	Calvert Cliffs		9.7	87.1	3.2
64	Lower Choptank River		7.1	92.9	
06	Calvert Cliffs		6.7	90.0	3.3
63	Lower Choptank River		3.6	92.9	3.6
61	Lower Nanticoke River		3.6	89.3	7.1
71	Lower Patuxent River		3.4	93.1	3.4
05	Calvert Cliffs		3.4	86.2	10.3
70	Lower Patuxent River		3.4	82.8	13.8
08	Calvert Cliffs		3.3	60.0	36.7
14	Calvert Cliffs		3.3	60.0	36.7
11	Calvert Cliffs		3.3	56.7	40.0
56	Calvert Cliffs		3.2	90.3	6.5
52	Lower Potomac River			93.3	6.7
55	Calvert Cliffs			93.3	6.7
53	Lower Potomac River			90.0	10.0
20	Calvert Cliffs			89.7	10.3

Table IV-2. Continued

STATION	SALINITY ZONE					Polyhaline (> 18 ppt)
	Tidal Freshwater (0-0.5 ppt)	Oligohaline (0.5-5 ppt)	Mesohaline (5-10 ppt)	High Mesohaline (10-18 ppt)	High Polyhaline	
HIGH MESOHALINE (Continued)						
59	Calvert Cliffs			89.7	10.3	
54	Lower Potomac River			73.3	26.7	
16	Calvert Cliffs			60.0	40.0	
57	Calvert Cliffs			60.0	40.0	
60	Tangier Sound			58.6	41.4	
03	Calvert Cliffs			43.3	56.7	
POLYHALINE						
21	Calvert Cliffs			20.7	79.3	
17	Calvert Cliffs			7.1	92.9	
04	Calvert Cliffs			6.9	93.1	
58	Lower Maryland Bay			3.4	96.6	

Table IV-3. Analysis of salinity from July 1974 to August 1977 by salinity zone -- results of analysis of variance with Duncan's Multiple Range Test for differences in salinity means

Within Salinity Zone Variance	16972
Between Salinity Zone Variance	54278
Percentage Variance explained by Salinity Zone	76.2

$p < 0.01$

Mean Salinities (ppt)
 (All means are significantly different $p < 0.05$)

Tidal Freshwater	0.03
Transitional	1.91
Low Meosaline	8.63
High Mesohaline	14.39
Polyhaline	20.99

ANOVA MODEL: $y = \mu + z + \epsilon$

where

y = Salinity
 μ = Grand mean
 z = Salinity zone effect
 ϵ = Random error

Table IV-4. Bottom temperature ($^{\circ}\text{C}$) measured at long-term benthic monitoring stations in Chesapeake Bay, July 1984 to October 1987. Dashes indicate missing values.

Station	Average Station Depth	1984			1985			Jan/Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Jul	Aug	Sep	Oct/Nov	Dec												
01	2.3	25.92	26.34	24.45	19.99	6.50	1.27	5.01	11.92	18.70	21.21	25.15	25.22	21.40	15.00	9.90		
02	6.1	25.66	25.75	22.41	19.46	6.54	1.42	5.40	11.72	18.07	21.33	24.75	25.47	22.01	14.85	10.16		
03	13.6	23.78	23.84	22.32	18.28	7.88	1.18	3.36	10.39	16.45	19.75	23.45	25.23	22.38	15.52	10.56		
04	28.3	21.71	24.37	24.23	17.95	9.33	1.01	2.15	8.84	14.28	19.46	23.31	25.13	22.68	16.00	11.54		
05	3.0	25.90	25.93	20.81	19.14	6.22	0.28	4.83	12.47	18.98	24.18	27.62	24.55	20.21	14.54	8.75		
06	2.9	26.05	26.26	22.94	20.01	6.37	2.36	5.74	11.75	19.25	21.49	25.00	25.39	21.18	15.90	10.02		
07	5.7	26.38	26.56	22.21	19.27	6.94	1.28	5.86	12.79	19.10	22.13	25.01	25.54	21.84	14.69	10.29		
08	12.4	25.65	23.66	22.92	18.70	7.09	0.69	3.67	9.70	16.94	19.75	23.40	25.16	21.82	14.73	10.19		
09	2.8	26.48	27.20	20.95	21.04	6.06	1.28	5.15	11.35	18.91	20.11	24.94	25.29	21.04	16.18	9.72		
10	6.5	26.23	27.47	21.40	20.56	8.03	1.71	5.19	11.70	18.00	21.29	25.07	25.28	21.74	15.36	9.97		
11	12.2	24.80	23.70	22.90	18.50	7.04	0.77	3.64	9.53	17.09	21.54	23.37	25.16	21.86	14.88	10.40		
12	2.1	25.79	25.79	22.80	18.67	6.35	0.66	4.94	10.67	19.01	20.71	26.28	25.33	20.10	15.21	9.87		
13	5.8	25.42	25.30	20.85	18.97	6.18	0.45	4.25	10.29	18.82	21.31	25.16	24.94	21.53	14.67	9.75		
14	11.7	24.15	23.79	22.25	18.77	6.85	0.96	3.77	9.40	17.33	19.58	23.25	25.10	21.98	14.63	10.10		
15	2.2	25.62	26.81	20.65	18.50	5.58	-0.05	4.23	12.38	19.42	21.40	25.22	25.28	22.31	13.95	9.06		
16	13.7	22.15	22.92	22.35	18.33	8.14	0.67	3.13	8.29	17.93	19.19	23.66	24.92	22.56	14.67	10.63		
17	26.7	21.55	22.89	24.70	18.07	9.20	1.28	1.93	7.76	15.16	18.82	21.31	25.16	24.94	21.53	14.67	9.75	
18	2.7	26.35	25.34	22.05	18.62	6.60	0.42	4.43	11.47	18.65	22.10	25.27	24.42	21.79	14.45	7.45		
19	3.1	27.35	25.12	21.04	18.53	6.06	-0.55	5.69	13.53	19.87	22.33	25.92	24.76	22.62	13.62	8.85		
20	10.6	23.28	22.98	22.70	18.49	7.95	0.38	3.58	8.48	17.25	19.93	23.62	24.69	22.67	13.98	10.08		
21	28.8	21.10	22.96	24.55	18.05	9.02	1.05	1.98	7.79	13.86	19.05	23.08	25.12	23.63	15.92	11.72		
22	3.9	26.79	25.38	22.25	18.86	6.48	-	5.13	11.38	21.49	23.69	26.01	24.86	22.46	13.97	7.19		
23	5.5	26.20	24.85	21.75	18.95	5.94	-	4.99	11.17	20.22	22.60	26.08	24.92	22.36	13.43	8.28		
24	6.5	24.97	23.68	22.15	18.67	7.23	-	3.80	8.61	19.17	20.22	25.48	24.55	21.97	13.78	8.62		
25	7.0	25.20	23.12	21.50	18.54	6.93	-	4.08	11.23	16.77	21.92	25.39	24.78	22.91	13.72	9.82		
26	4.0	26.05	25.38	20.62	18.04	4.39	-	4.79	11.43	19.82	22.14	26.48	24.42	21.46	12.50	6.17		
27	5.8	26.15	25.95	20.78	18.45	4.03	-	4.82	11.79	20.27	22.78	26.52	24.64	21.93	9.89	4.04		
28	3.6	26.75	24.43	19.62	17.97	3.75	-	5.67	11.86	20.45	23.33	26.98	24.39	21.86	9.41	4.29		
29	5.7	26.66	26.26	20.92	18.19	3.96	-	5.46	12.66	20.94	23.11	27.45	25.15	22.07	12.24	5.25		
30	2.5	26.98	24.84	24.75	20.00	5.62	-	9.49	14.50	22.54	24.00	27.97	26.51	23.06	11.97	4.18		
31	5.7	26.43	25.59	24.00	19.37	5.36	-	9.03	12.97	22.03	25.06	27.25	25.67	22.79	12.78	5.10		
32	2.2	26.40	25.96	23.65	19.69	6.41	-	8.91	12.95	21.42	24.48	28.58	26.13	23.50	13.16	5.08		
33	8.0	26.45	22.77	23.65	19.50	6.28	-	9.15	12.30	21.20	24.37	26.63	25.66	22.92	13.34	6.20		
34	2.5	26.06	24.04	24.05	20.24	7.93	0.30	8.67	12.12	21.72	24.16	26.93	25.84	23.51	14.86	6.33		
35	12.8	2.10	26.49	24.02	19.38	7.33	-0.27	6.66	9.43	17.96	21.91	25.80	25.42	23.30	15.20	8.20		

Table IV-4. Continued

Station	Average Station Depth	1984						1985									
		Jul	Aug	Sep	Oct/ Nov	Dec	Jan/ Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
45	2.5	26.25	28.73	24.02	20.33	8.47	0.02	8.78	12.76	22.14	24.32	27.11	26.07	23.94	15.29	6.75	
46	13.5	26.10	26.27	24.00	19.51	7.35	-0.39	6.62	10.01	18.11	21.63	25.73	25.48	23.27	15.18	8.28	
47*	2.3	26.34	29.65	24.05	20.66	9.58	1.10	9.10	13.19	22.10	25.39	27.01	25.82	24.31	15.09	6.91	
48	18.3	25.95	26.23	24.00	19.22	7.35	-0.35	6.46	9.52	17.37	21.63	25.49	25.38	23.27	15.21	8.43	
49	2.2	25.95	26.00	23.60	20.37	7.08	-0.28	7.15	13.25	24.80	24.20	26.70	25.31	23.66	13.90	5.64	
50	13.8	26.25	26.34	23.81	19.23	7.33	-0.21	6.44	9.68	17.39	21.64	25.51	25.29	23.17	15.29	8.23	
51	2.5	26.19	26.04	23.28	19.04	7.68	-0.18	6.97	13.52	22.01	23.98	26.73	25.16	23.24	14.45	7.96	
52	10.9	24.10	25.20	23.85	18.39	7.77	0.20	4.98	9.16	15.89	20.52	24.05	25.30	23.12	15.39	9.33	
53	2.7	26.35	26.18	23.95	19.50	7.88	0.44	6.09	11.01	20.32	23.86	26.24	25.54	23.23	14.73	8.01	
54	12.9	25.42	24.65	24.05	18.72	7.73	0.59	5.53	9.66	16.12	20.82	23.78	25.33	23.19	14.90	9.01	
55	2.8	26.40	25.80	24.10	19.30	7.82	0.93	5.62	12.23	18.50	23.92	26.51	26.16	23.11	16.51	8.36	
56	7.2	26.04	25.19	23.82	18.84	7.47	0.77	5.02	10.00	16.85	22.36	25.63	25.54	23.02	15.48	8.00	
57	13.5	24.60	23.44	23.80	18.37	7.80	0.60	5.07	9.50	15.61	20.08	24.06	25.23	23.15	15.14	9.22	
58	31.4	23.65	24.64	24.82	18.00	8.63	0.36	3.48	8.52	15.06	19.95	23.22	25.42	23.28	15.76	10.23	
59	2.7	26.90	25.76	22.77	19.69	6.17	0.31	7.79	13.28	20.75	24.60	26.33	26.41	22.96	15.89	6.73	
60	2.6	27.22	25.30	24.07	19.00	6.19	-0.35	7.17	14.23	21.04	23.97	26.08	26.10	22.46	15.00	4.96	
61	5.4	26.70	25.17	23.79	19.36	5.28	-	7.24	12.97	20.77	23.20	26.54	25.25	22.09	15.18	5.41	
62	6.9	27.32	25.99	23.95	19.19	5.17	-	9.12	13.60	21.53	23.76	27.70	25.89	22.13	15.12	6.02	
63	7.9	25.95	24.39	22.02	19.30	5.05	-	5.42	11.66	20.57	23.67	26.41	25.18	22.01	14.36	7.04	
64	9.3	26.15	25.65	21.66	19.67	4.74	-	6.84	12.55	21.04	23.58	26.80	25.38	22.37	14.42	7.19	
65	3.1	26.72	27.27	21.52	19.80	4.81	-	7.55	13.41	21.67	-	-	-	-	14.91	6.95	
66	2.7	27.14	28.04	21.10	20.16	4.92	-	10.21	15.72	22.83	-	-	-	-	14.75	6.24	
67	6.8	26.90	24.66	20.95	19.06	4.29	-	5.92	10.62	20.19	23.55	25.60	24.90	21.73	13.28	6.69	
68	5.9	27.45	25.21	21.42	19.12	4.53	-	7.33	13.18	21.21	23.83	27.30	25.38	22.03	13.39	6.57	
70	16.8	25.38	24.06	22.66	19.31	7.20	0.98	5.28	10.67	16.29	20.85	23.65	25.25	21.86	14.15	8.82	
71	15.4	26.29	23.66	23.25	19.04	7.03	0.64	6.22	12.26	18.55	21.42	25.01	25.35	21.93	14.88	7.70	
72	2.3	25.50	25.07	22.16	20.74	7.32	0.20	8.72	15.88	20.00	21.21	27.80	26.04	21.29	12.61	6.41	
73	2.7	26.15	25.62	22.10	22.24	7.36	0.21	8.84	16.71	20.87	22.62	28.37	26.33	21.32	13.19	6.63	
74	2.7	26.61	26.15	22.20	22.40	7.52	0.25	11.76	19.76	21.76	23.82	28.84	26.80	21.54	13.27	7.33	
75	2.3	26.65	25.80	22.43	22.32	7.84	0.67	10.57	18.93	21.70	23.50	29.86	27.57	21.55	12.96	5.63	
76	2.6	26.42	26.13	22.52	22.72	7.75	1.15	9.27	18.86	21.56	24.30	30.83	27.55	21.47	12.76	5.88	
77	2.7	26.02	25.74	21.96	22.02	7.37	-0.04	10.21	19.23	21.16	24.40	29.44	26.95	20.39	12.78	5.40	
78	2.5	25.65	24.98	22.51	21.43	5.99	-	9.26	16.95	20.53	23.50	29.17	26.52	18.91	11.60	4.19	
79	2.4	23.81	23.92	20.60	21.68	6.04	-	8.76	18.68	18.52	22.42	29.28	25.68	18.27	9.33	3.12	
80	2.3	22.52	22.03	19.03	21.17	7.97	-	8.59	18.13	17.36	20.64	27.85	24.54	17.26	3.55	8.71	

* Station 47 relocated in April 1985

Table IV-4. Continued

Station	Average Station Depth	1986										1987			
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr		
01	2.3	2.72	3.63	11.09	13.43	24.09	27.18	22.95	16.08	5.90	1.58	4.07	10.20		
02	6.1	2.25	2.95	9.96	13.95	22.96	27.12	23.17	15.68	6.02	2.12	4.16	10.27		
03	13.6	2.70	2.40	9.11	10.86	18.74	24.57	23.17	16.20	8.42	1.86	3.99	6.81		
04	28.3	2.81	2.92	9.73	11.33	18.42	24.80	23.13	17.60	9.65	-	4.13	6.28		
05	3.0	2.34	2.72	9.79	15.40	24.96	26.19	22.46	15.69	5.54	-	4.79	8.70		
06	2.9	3.03	3.50	11.01	13.71	24.44	27.05	22.94	15.58	5.98	1.20	4.18	9.89		
07	5.7	3.54	3.70	11.80	13.91	23.32	27.26	23.71	15.59	5.71	1.58	4.30	10.50		
08	12.4	2.53	2.75	8.51	10.87	19.13	24.62	23.81	15.87	8.27	1.77	3.90	7.44		
09	2.8	2.06	4.76	11.52	13.54	25.00	26.55	22.71	14.51	6.51	0.98	4.14	10.21		
10	6.5	2.43	3.65	11.32	14.17	22.18	26.89	24.38	14.74	5.51	1.73	4.23	10.61		
11	12.2	2.47	2.81	8.39	10.82	18.82	24.68	23.17	15.70	8.58	1.60	3.90	7.37		
12	2.1	1.98	3.03	11.65	14.01	22.33	27.49	23.09	14.44	5.59	0.85	4.33	11.41		
13	5.8	2.02	2.44	9.88	12.49	21.73	26.68	22.94	15.07	6.22	0.92	4.19	10.61		
14	11.7	2.33	2.67	9.02	10.72	18.86	24.75	23.23	15.73	8.62	2.14	3.95	7.87		
15	2.2	1.68	3.63	11.11	12.14	25.48	27.85	22.91	14.51	7.04	0.27	4.89	11.57		
16	13.7	2.65	2.40	8.08	11.34	18.66	24.82	23.18	17.63	10.02	2.00	3.95	7.05		
17	26.7	2.87	2.76	8.90	11.45	17.63	24.65	23.30	17.70	10.15	3.76	4.08	6.44		
18	2.7	0.79	4.61	10.25	12.05	24.94	26.72	20.27	15.99	6.43	-	4.22	10.62		
19	3.1	0.62	4.54	10.24	12.58	22.48	27.74	22.63	14.36	7.66	-	4.83	11.02		
20	10.6	1.46	2.14	7.19	12.19	20.77	24.65	23.30	16.01	9.77	-	3.68	7.81		
21	28.8	2.81	2.68	8.65	11.26	17.02	24.58	23.43	17.66	9.59	-	3.98	6.43		
22	3.9	1.17	4.50	9.56	12.72	25.10	26.74	22.80	15.95	8.03	-	5.35	10.79		
23	5.5	1.08	4.62	9.34	12.65	24.63	26.83	22.76	15.54	7.04	-	4.92	10.53		
24	6.5	0.72	3.42	7.70	11.00	23.48	25.54	22.67	16.78	9.03	-	3.64	8.62		
25	7.0	1.37	3.60	7.50	-	23.13	25.23	22.12	14.83	9.03	-	3.79	8.33		
26	4.0	0.23	3.21	10.48	12.88	24.79	27.21	21.72	14.28	4.88	-	4.24	9.13		
27	5.8	1.54	2.72	11.15	14.01	25.13	27.58	21.36	13.95	3.58	-	4.22	9.15		
28	3.6	-	3.90	11.60	14.57	24.27	26.30	20.78	13.49	3.06	-	4.28	8.85		
29	5.7	-	4.08	10.99	14.90	25.62	27.67	21.31	13.43	3.45	-	4.32	9.59		
30	2.5	1.54	7.84	11.75	19.07	26.37	28.21	21.44	14.39	4.48	-	8.27	11.70		
31	5.7	1.09	5.55	12.87	17.27	25.41	28.60	20.93	14.01	5.47	-	6.67	11.07		
32	2.2	0.86	5.70	12.28	16.31	25.88	28.12	20.78	13.92	5.99	-0.01	6.59	10.98		
33	8.0	0.60	5.55	12.45	15.95	24.92	28.14	21.26	14.38	6.24	0.09	6.35	10.92		
34	2.5	1.99	5.37	11.96	16.11	24.27	27.88	22.07	14.89	7.01	1.65	6.93	11.81		
35	1.43	4.55	11.82	13.76	23.30	27.09	21.62	15.44	7.10	0.80	5.53	8.98			

Table IV-4. Continued

Station	Average Station Depth	1986						1987					
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr
45	2.5	3.35	5.43	12.08	18.43	23.95	27.90	22.24	16.39	6.93	2.55	6.92	11.87
46	13.5	1.24	4.67	11.76	13.99	23.10	27.59	21.47	19.39	7.24	0.81	5.48	9.08
47*	2.3	3.98	5.45	12.14	18.65	23.94	27.96	21.51	16.05	7.10	0.43	7.19	12.19
48	18.3	1.64	4.54	11.68	13.58	23.33	26.99	21.44	15.41	7.24	0.82	5.39	8.90
49	2.2	1.30	5.45	11.63	15.33	23.41	27.61	20.94	14.87	6.57	0.75	6.89	11.26
50	13.8	1.33	4.58	11.42	13.64	23.10	26.75	—	15.33	7.28	0.76	5.19	9.21
51	2.5	0.74	5.37	11.43	13.53	23.44	27.48	21.70	14.79	6.69	0.67	6.79	12.01
52	10.9	1.87	3.89	10.91	12.72	19.52	25.33	21.45	15.37	8.11	2.08	4.71	9.11
53	2.7	0.31	4.27	11.17	15.48	25.07	27.70	21.65	14.61	7.37	0.79	5.64	12.07
54	12.9	2.03	3.48	10.99	13.33	23.11	25.94	21.91	15.71	7.39	1.44	4.74	8.52
55	2.8	1.38	5.03	10.77	14.10	24.51	27.66	21.32	15.01	6.95	0.24	5.67	10.89
56	7.2	1.51	3.70	10.60	13.09	23.57	27.16	21.22	15.46	6.87	1.42	4.96	9.78
57	13.5	1.71	3.47	9.83	13.09	20.71	25.23	22.07	16.30	6.89	1.93	4.40	8.53
58	31.4	2.96	3.12	10.42	12.46	20.58	25.12	22.87	17.22	9.66	—	4.46	7.07
59	2.7	0.17	4.52	11.20	13.76	25.29	27.74	20.48	14.53	6.95	—	5.48	12.48
60	2.6	0.39	5.03	12.19	18.58	24.91	27.24	19.66	15.39	5.03	—	5.31	12.08
61	5.4	0.19	5.61	12.18	16.49	25.09	27.76	19.58	15.01	4.68	—	5.30	12.72
62	6.9	0.65	6.76	12.68	18.34	25.35	27.89	20.10	13.84	5.28	—	6.26	13.54
63	7.9	0.93	3.66	9.47	14.98	25.59	27.45	21.31	15.98	6.53	—	4.71	11.76
64	9.3	0.42	4.80	10.86	15.13	26.00	27.63	20.03	15.20	6.03	—	5.07	11.70
65	3.1	—	5.55	12.07	15.86	26.83	28.82	21.37	14.67	6.32	—	5.37	12.88
66	2.7	—	7.83	12.93	17.17	27.23	28.88	22.63	15.61	6.21	—	7.50	13.35
67	6.8	0.55	4.58	7.50	—	25.75	27.11	21.00	15.19	5.02	—	4.47	12.14
68	5.9	0.49	5.56	9.29	—	25.97	27.83	21.11	14.09	5.09	—	5.89	12.72
70	16.8	1.46	3.96	9.96	11.36	21.21	26.08	21.83	16.08	7.62	—	4.79	9.32
71	15.4	1.24	4.27	10.35	13.87	23.76	27.66	22.15	15.37	6.79	1.38	6.28	9.82
72	2.3	1.38	7.56	13.02	17.70	24.66	28.14	21.73	14.45	6.77	1.40	7.11	14.00
73	2.7	0.93	6.67	12.68	19.00	25.20	28.14	21.66	14.15	6.72	1.35	6.88	12.34
74	2.7	3.03	8.07	12.95	21.12	24.64	28.98	22.01	13.99	7.15	1.77	7.70	14.01
75	2.3	1.13	8.64	13.18	21.01	24.85	29.00	23.58	14.78	6.72	2.12	8.48	13.76
76	2.6	1.71	10.00	13.20	21.03	25.95	28.71	22.20	14.08	6.76	2.14	8.93	13.74
77	2.7	0.87	9.74	12.91	20.44	25.87	29.06	23.56	14.25	5.90	1.38	8.73	14.45
78	2.5	0.32	9.00	12.09	20.44	24.71	29.37	21.40	13.02	4.37	—	7.77	14.60
79	2.4	0.01	10.52	11.23	21.64	23.50	27.89	20.84	11.63	3.95	—	9.28	13.90
80	2.3	0.42	10.04	11.54	21.11	22.73	26.51	20.64	11.13	4.64	—	9.39	13.66

* Station 47 relocated in April 1985

Table IV-4. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Sep	Oct
01	2.3	18.30	21.07	28.04	25.01	15.81	
02	6.1	17.08	20.40	27.65	25.36	16.03	
03	13.6	13.06	18.51	23.30	25.89	16.80	
04	28.3	12.66	16.94	23.54	26.25	16.64	
05	3.0	16.33	22.00	26.96	24.28	16.40	
06	2.9	17.79	20.62	28.87	25.76	16.37	
07	5.7	16.84	19.71	27.81	25.48	16.64	
08	12.4	13.05	18.56	23.49	25.89	15.99	
09	2.8	17.61	21.81	28.32	24.61	15.99	
10	6.5	17.26	21.18	28.00	25.69	16.52	
11	12.2	13.05	18.11	23.43	25.90	16.96	
12	2.1	17.11	19.88	28.49	24.60	15.80	
13	5.8	16.68	19.23	27.84	25.32	16.26	
14	11.7	12.92	17.07	23.07	25.83	16.81	
15	2.2	17.02	22.29	28.81	25.01	15.67	
16	13.7	12.71	15.83	23.36	26.60	16.65	
17	26.7	12.65	15.68	22.18	26.57	16.87	
18	2.7	17.46	21.75	24.88	23.80	15.82	
19	3.1	17.72	22.29	28.24	25.58	15.64	
20	10.6	13.51	15.83	23.78	25.56	16.52	
21	28.8	12.34	15.54	21.96	26.78	16.97	
22	3.9	17.96	19.86	27.02	25.68	15.72	
23	5.5	17.43	20.56	27.03	24.91	15.17	
24	6.5	14.39	17.75	24.99	25.18	14.60	
25	7.0	17.46	20.91	26.43	29.82	14.69	
26	4.0	17.22	21.79	28.00	23.86	13.79	
27	5.8	18.44	22.83	29.04	25.01	13.87	
28	3.6	18.60	22.35	28.69	23.86	13.38	
29	5.7	18.60	23.69	28.90	24.76	13.38	
36	2.5	19.60	25.09	27.43	24.66	16.17	
38	5.7	18.73	24.78	27.91	25.13	15.46	
39	2.2	17.99	22.83	27.18	25.14	15.62	
40	8.0	17.60	22.56	27.79	25.28	15.41	
43	2.5	17.46	23.21	27.27	25.42	16.04	
44	12.8	14.43	20.40	26.62	25.52	16.11	

Table IV-4. Continued

Station	Average Station Depth	1987				
		May	Jun	Jul	Aug	Oct
45	2.5	18.09	22.86	27.49	25.85	16.27
46	13.5	14.53	20.84	26.51	25.60	16.16
47*	2.3	18.99	22.84	27.23	25.80	16.13
48	18.3	14.23	20.19	26.58	25.60	16.12
49	2.2	15.51	22.42	26.61	27.98	15.78
50	13.8	14.45	19.98	26.32	25.48	16.24
51	2.5	17.92	23.17	27.14	25.03	16.30
52	10.9	13.76	18.93	24.71	26.02	16.78
53	2.7	16.32	23.15	27.01	25.58	16.89
54	12.9	13.06	20.37	26.57	25.58	16.76
55	2.8	16.56	21.82	26.54	25.26	17.70
56	7.2	15.58	20.86	26.23	25.50	16.80
57	13.5	12.90	19.17	25.33	25.97	16.77
58	31.4	12.61	18.39	24.71	26.25	16.25
59	2.7	16.62	23.02	26.51	25.75	16.61
60	2.6	17.66	24.60	26.28	25.48	15.87
61	5.4	19.90	23.86	26.98	24.94	14.89
62	6.9	19.73	24.75	27.42	25.01	14.33
63	7.9	17.14	23.39	27.18	24.55	13.37
64	9.3	18.05	23.50	27.50	25.71	13.65
65	3.1	18.37	24.35	27.63	25.47	13.38
66	2.7	19.16	24.81	27.93	—	13.95
67	6.8	17.78	22.23	28.90	25.33	14.83
68	5.9	18.87	23.75	29.31	25.68	14.08
70	16.8	14.78	18.63	25.70	25.72	15.68
71	15.4	14.98	20.80	27.15	25.97	15.07
72	2.3	17.92	25.48	26.50	25.58	14.00
73	2.7	17.71	25.07	27.25	25.90	14.18
74	2.7	18.82	26.35	27.37	27.53	14.03
75	2.3	19.52	28.48	28.97	26.67	14.41
76	2.6	20.05	26.84	27.73	26.66	14.06
77	2.7	20.64	29.20	26.95	26.39	13.92
78	2.5	20.35	27.11	26.95	25.49	13.24
79	2.4	19.75	27.77	25.64	25.48	12.22
80	2.3	18.44	26.38	23.78	24.27	11.68

Table IV-5. Bottom water dissolved oxygen concentration (mg/l) measured at long-term benthic monitoring stations in Chesapeake Bay, July 1984 to October 1987. Dashes indicate missing values.

Average Station Depth	Station	1984				1985										
		Jul	Aug	Sep	Oct/ Nov	Jan/ Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	2.3	6.5	8.0	9.0	6.5	11.5	12.5	10.9	11.6	6.9	6.9	7.1	9.3	9.7	9.1	9.7
02	6.1	7.6	6.3	0.3	0.0	6.9	7.6	11.2	12.3	10.9	10.9	9.0	4.3	6.7	8.8	8.6
03	13.6	0.1	0.1	0.0	-	7.3	6.8	10.8	11.6	8.8	4.2	4.4	5.2	1.3	2.5	2.4
04	28.3	3.0	9.0	9.8	7.3	6.8	10.8	12.4	11.3	11.3	4.4	1.7	1.1	0.1	2.4	5.5
05	6.7	6.8	8.7	6.7	11.3	12.5	11.1	11.5	7.2	7.2	6.3	8.2	7.2	7.1	8.6	8.5
06	2.9	5.7	6.1	6.2	8.0	7.1	11.0	12.5	11.0	11.8	8.1	5.1	5.1	1.1	1.3	6.6
07	12.4	-	-	5.6	4.2	10.6	12.4	10.2	6.6	5.1	0.9	1.0	1.0	1.2	5.6	8.6
08	2.8	7.1	10.4	11.4	6.9	11.6	12.7	11.1	11.3	8.0	8.0	5.1	2.1	2.1	7.1	11.9
09	6.5	5.8	4.6	10.4	6.9	11.1	12.8	11.1	12.0	6.4	7.3	5.8	2.2	6.3	9.3	8.9
10	12.2	-	-	5.3	3.3	10.8	12.4	10.2	6.2	5.1	0.9	1.0	1.1	1.1	9.3	9.1
11	2.1	8.2	11.6	14.0	7.1	11.6	13.1	11.3	9.8	8.6	7.4	8.7	3.5	7.8	12.7	11.9
12	5.8	7.3	0.0	9.9	6.9	10.9	12.7	11.0	8.8	8.7	6.1	4.9	1.6	5.2	10.5	10.0
13	11.7	0.1	0.0	5.9	4.8	10.6	12.2	10.2	6.7	5.6	1.1	0.7	1.0	5.0	7.6	10.7
14	2.2	8.2	11.9	7.8	8.0	11.5	13.5	11.4	11.7	9.0	7.7	5.6	6.2	7.4	10.7	10.0
15	13.7	5.6	0.7	5.8	2.9	8.4	12.0	9.6	5.6	6.4	1.0	1.5	2.0	6.2	7.5	8.9
16	26.7	0.1	0.0	-	-	7.2	11.4	8.4	3.5	0.7	0.6	0.9	0.1	2.2	5.4	7.4
17	8.0	5.6	12.0	6.4	10.7	13.2	11.3	11.2	8.8	7.6	4.9	6.8	8.1	9.9	10.8	10.8
18	3.1	8.9	9.2	10.8	8.5	12.4	13.4	12.5	12.2	7.6	7.3	5.2	3.3	7.0	9.6	11.4
19	10.6	0.1	0.0	2.6	3.4	8.5	12.5	10.0	4.8	4.7	1.6	1.0	4.7	4.9	8.8	8.4
20	28.8	0.1	0.0	0.5	-	7.2	11.8	8.4	3.8	0.3	0.4	0.4	0.1	1.4	5.4	7.8
21	3.9	5.0	0.1	5.8	5.5	9.0	-	13.1	8.4	10.6	9.2	3.7	2.4	4.7	8.3	13.0
22	5.5	4.7	1.0	7.6	5.2	9.6	-	11.6	6.8	7.9	3.0	4.2	2.4	6.3	8.4	9.5
23	6.5	1.5	4.4	3.2	6.5	8.6	-	10.8	5.6	7.4	1.5	5.6	5.3	6.1	7.3	8.7
24	7.0	4.1	24.0	10.2	4.4	9.3	-	10.1	10.8	2.1	4.6	2.5	6.3	2.2	9.1	8.2
25	4.0	9.1	7.4	7.3	7.9	11.2	-	11.5	8.9	7.1	6.2	7.5	6.0	6.8	9.1	11.5
26	2.7	5.8	8.5	6.7	7.6	8.2	12.4	-	12.2	10.2	7.3	6.7	6.1	5.7	6.1	13.7
27	3.6	9.4	8.7	10.4	8.9	13.0	-	12.8	12.0	7.9	7.8	8.0	6.8	6.8	12.3	13.4
28	5.7	8.2	7.0	7.3	7.9	12.2	-	12.0	9.9	6.8	6.8	6.1	5.9	6.6	9.0	12.0
29	2.5	6.3	7.2	5.7	5.9	13.3	-	10.7	9.6	6.7	6.5	6.1	8.4	5.7	10.6	13.7
30	5.7	12.4	8.4	6.5	6.9	11.3	-	10.9	9.9	7.1	8.4	5.6	4.5	5.0	9.5	11.9
31	2.2	7.0	7.7	5.6	6.8	11.5	-	10.1	8.2	6.0	5.8	8.7	5.7	6.6	8.2	11.6
32	8.0	6.7	7.6	5.9	6.4	11.5	-	10.4	8.2	6.1	5.8	5.0	5.3	5.7	8.1	11.1
33	2.5	6.0	4.4	6.0	4.4	10.7	12.9	12.0	12.0	9.3	6.3	5.7	7.1	5.7	10.8	10.8
34	4.5	4.0	-	-	-	12.2	10.2	10.2	10.2	9.0	1.0	1.0	1.0	1.0	1.0	4.5

Table IV-5: Continued

* Station 47 relocated in April 1985

Table IV-5. Continued

Station	Average Station Depth	1986						1987					
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr
01	2.3	13.0	11.7	11.5	10.8	5.8	6.0	7.8	8.5	12.5	12.8	12.7	11.8
02	6.1	13.0	11.5	11.2	11.1	4.9	5.9	6.0	8.4	11.5	12.1	12.5	11.5
03	13.6	12.9	10.9	5.9	4.4	0.8	0.1	1.7	7.7	8.9	13.0	10.7	7.6
04	28.3	10.9	9.2	6.2	3.9	1.6	0.0	1.7	4.2	7.9	-	10.1	7.7
05	3.0	12.5	12.2	10.8	9.4	8.1	3.4	6.5	7.7	12.2	-	12.4	10.2
06	2.9	13.0	11.5	11.6	10.6	7.6	5.9	6.9	8.7	12.7	13.1	12.5	11.3
07	5.7	13.0	11.1	10.9	11.1	4.6	5.6	5.7	8.4	12.0	12.4	12.6	11.6
08	12.4	12.0	10.3	6.0	4.5	0.7	0.1	2.0	8.2	9.0	12.3	10.6	8.7
09	2.8	13.2	11.7	11.6	10.4	6.0	6.4	9.0	9.0	12.9	13.1	12.8	12.0
10	6.5	13.2	11.5	10.9	10.7	3.2	6.9	6.2	9.0	12.0	16.2	12.4	11.9
11	12.2	12.2	10.0	6.2	4.4	0.6	0.1	1.9	8.4	8.7	12.2	10.8	8.0
12	2.1	13.7	11.7	11.3	11.7	2.9	6.8	9.0	8.9	11.9	15.2	13.2	12.3
13	5.8	13.2	11.7	11.3	9.1	2.2	5.3	6.4	8.7	11.3	14.5	12.7	11.5
14	11.7	12.6	10.2	5.5	4.1	1.0	0.2	1.3	8.3	8.9	13.9	10.9	9.2
15	2.2	13.5	11.7	11.8	9.9	8.6	6.3	7.0	8.5	10.0	13.8	13.1	11.3
16	13.7	10.9	9.7	6.1	3.5	0.8	0.1	2.8	4.0	7.4	12.4	11.1	7.6
17	26.7	10.6	7.9	5.5	5.2	0.9	0.0	1.1	4.1	7.5	12.1	9.7	7.2
18	2.7	13.2	11.8	12.3	9.6	8.3	6.0	6.1	7.8	11.0	-	12.8	12.0
19	3.1	13.5	11.8	12.3	9.9	2.6	6.4	7.8	8.4	8.8	-	12.6	11.0
20	10.6	12.5	10.6	5.8	3.5	1.8	0.1	2.2	6.3	7.5	-	9.8	6.8
21	28.8	10.5	7.7	5.6	2.7	0.5	0.0	0.7	3.8	7.7	-	9.7	6.7
22	3.9	12.2	11.1	11.8	2.8	5.8	4.5	2.5	4.3	8.0	-	9.8	7.6
23	5.5	12.5	11.4	8.6	8.1	5.5	1.6	4.3	5.4	9.2	-	9.7	7.5
24	6.5	12.7	11.8	6.0	1.9	4.9	0.1	3.4	5.1	7.6	-	9.4	4.9
25	7.0	11.9	12.0	6.6	-	2.7	0.1	6.8	8.9	7.6	-	9.1	5.8
26	4.0	13.8	12.6	9.7	9.3	7.1	7.3	7.6	7.6	11.2	-	11.6	11.8
27	5.8	-	13.4	11.9	9.7	7.5	5.8	8.3	8.1	12.7	-	12.7	12.6
28	3.6	-	13.2	12.0	10.7	7.6	8.0	8.9	8.8	13.3	-	13.1	12.6
29	5.7	-	13.0	10.1	9.7	7.3	7.1	8.1	8.8	12.2	-	13.4	12.1
36	2.5	13.6	11.6	9.6	7.9	6.1	5.9	6.4	7.7	12.2	-	10.2	10.8
38	5.7	13.1	12.1	9.4	8.4	7.1	5.6	6.8	8.2	11.1	-	10.5	10.5
39	2.2	12.7	11.8	8.8	7.4	6.9	5.0	7.4	8.2	10.8	14.2	9.6	9.2
40	8.0	13.3	12.0	7.9	7.4	5.7	4.9	7.3	8.0	10.5	14.3	8.7	8.0
43	2.5	12.6	13.2	7.7	11.8	5.3	4.7	7.2	7.3	10.5	13.0	10.0	8.5
44	12.8	11.7	11.5	7.2	6.1	2.9	0.5	6.6	6.8	10.0	12.8	10.4	4.9

Table IV-5. Continued

Station	Average Station Depth	1986						1987					
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr
45	2.5	12.7	12.6	8.1	11.8	5.0	4.5	7.3	7.2	10.7	13.2	9.7	8.2
46	13.5	11.9	7.4	6.9	2.5	1.8	6.6	6.9	9.6	13.2	10.3	4.9	
47*	2.3	12.7	12.6	7.9	11.5	5.6	4.2	6.8	7.3	10.8	13.5	10.2	7.8
48	18.3	11.6	11.3	7.5	5.9	3.4	0.3	7.1	6.9	9.5	13.1	9.9	4.8
49	2.2	12.6	14.0	9.1	11.8	8.5	5.2	8.9	7.4	13.9	14.2	9.7	7.1
50	13.8	12.0	11.4	7.5	6.2	2.6	0.2	-	7.0	9.6	13.0	9.3	5.3
51	2.5	12.7	13.1	10.6	8.7	6.7	6.0	5.8	7.9	13.7	15.0	10.7	11.5
52	10.9	11.8	10.3	9.1	5.6	0.5	0.1	6.1	6.9	9.2	13.0	9.0	8.7
53	2.7	12.8	12.3	10.1	9.0	9.5	5.8	8.4	8.3	12.0	14.3	11.0	12.3
54	12.9	12.0	11.6	10.1	7.5	4.7	0.1	6.0	7.4	10.3	13.1	10.3	8.6
55	2.8	12.9	12.1	10.6	9.3	9.2	7.0	7.8	8.3	11.3	13.5	13.6	12.2
56	7.2	12.6	12.0	9.6	8.6	7.9	4.9	6.5	8.0	10.8	12.7	13.4	11.3
57	13.5	12.0	11.6	4.6	8.2	5.5	0.1	6.2	5.5	10.7	12.2	11.7	8.8
58	31.4	10.9	9.3	5.1	6.5	1.5	0.0	2.6	3.4	7.7	-	10.9	7.0
59	2.7	13.0	12.1	10.1	9.6	8.6	7.3	8.3	8.6	11.1	-	12.7	11.6
60	2.6	13.2	11.7	9.6	9.2	7.8	5.7	8.3	8.4	11.7	-	12.3	12.1
61	5.4	12.7	11.1	9.6	8.3	6.0	5.2	7.6	8.0	11.4	-	12.0	11.8
62	6.9	13.0	11.2	9.3	8.6	6.8	4.8	7.1	8.0	10.5	-	11.2	9.3
63	7.9	12.9	12.0	5.7	8.9	6.8	5.3	6.8	7.0	10.9	-	11.5	11.0
64	9.3	13.4	12.1	7.9	9.9	7.6	5.4	6.9	8.1	10.8	-	11.2	9.4
65	3.1	-	12.4	9.7	11.1	7.6	6.6	7.0	7.8	10.8	-	11.3	9.3
66	2.7	-	11.6	8.6	10.5	8.5	5.9	8.9	10.7	10.8	-	11.7	9.9
67	6.8	12.6	12.2	5.4	-	6.5	3.4	6.6	6.5	12.3	-	8.9	7.7
68	5.9	13.3	12.6	6.0	-	5.5	3.3	6.4	7.7	11.5	-	10.9	7.9
70	16.8	12.6	11.9	5.6	5.3	1.8	0.4	5.4	6.7	9.3	-	9.9	9.4
71	15.4	12.4	10.9	6.1	6.4	2.2	2.2	5.5	7.3	10.8	12.8	10.9	9.4
72	2.3	12.8	11.0	10.2	9.4	4.5	7.3	6.2	7.3	10.6	16.5	10.1	8.7
73	2.7	12.6	10.8	9.2	8.1	6.6	5.0	6.7	7.2	10.8	15.2	9.9	7.9
74	2.7	12.8	9.6	8.8	8.9	5.2	6.8	6.3	7.1	10.8	16.0	9.5	7.6
75	2.3	12.4	9.3	9.0	8.7	4.4	6.5	8.0	7.1	10.8	16.0	9.6	7.5
76	2.6	12.7	9.2	9.0	9.1	6.2	6.6	6.3	7.0	10.7	15.5	9.4	7.2
77	2.7	12.5	9.3	9.0	10.0	5.6	6.5	6.7	6.9	10.6	14.3	7.8	7.7
78	2.5	12.7	10.1	9.9	10.8	6.0	4.6	5.9	7.0	11.0	-	8.2	7.4
79	2.4	12.2	9.8	9.4	12.1	6.7	6.8	7.4	9.1	10.9	-	8.9	8.3
80	2.3	12.5	9.8	9.7	9.1	6.0	8.5	7.8	11.0	-	9.3	8.5	

* Station 47 relocated in April 1985

Table IV-5. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Sep	Oct
01	2.3	10.9	5.3	6.3	5.4	9.5	
02	6.1	10.9	4.3	6.5	6.2	7.2	
03	13.6	2.5	0.7	0.1	2.2	7.2	
04	28.3	1.4	0.1	0.1	0.6	7.3	
05	3.0	9.6	8.6	6.3	7.0	10.5	
06	2.9	11.3	4.2	5.8	5.2	9.4	
07	5.7	10.4	2.5	6.5	6.4	6.9	
08	12.4	2.6	0.8	0.2	1.1	5.8	
09	2.8	11.0	6.0	6.9	5.1	8.4	
10	6.5	10.7	5.1	5.7	4.6	6.4	
11	12.2	2.6	0.4	0.1	0.8	5.5	
12	2.1	10.2	2.6	8.2	7.5	8.0	
13	5.8	10.3	1.9	5.8	5.0	5.8	
14	11.7	2.4	0.1	0.2	0.7	6.1	
15	2.2	9.3	8.8	6.9	9.0	7.7	
16	13.7	0.8	0.1	0.2	0.1	7.2	
17	26.7	0.7	0.1	0.1	0.1	6.7	
18	2.7	8.3	7.3	6.1	7.1	9.3	
19	3.1	10.6	7.4	5.5	6.7	11.5	
20	10.6	1.7	0.1	0.3	2.9	7.4	
21	28.8	0.1	0.1	0.1	0.0	7.2	
22	3.9	9.0	3.8	2.1	1.3	7.8	
23	5.5	6.3	2.2	1.5	4.0	8.4	
24	6.5	2.4	1.7	1.0	4.1	7.8	
25	7.0	9.2	3.3	0.8	0.2	8.4	
26	4.0	8.8	5.9	5.4	6.8	9.1	
27	5.8	8.5	6.3	5.7	6.0	9.2	
28	3.6	9.0	10.0	7.1	7.0	9.3	
29	5.7	9.0	5.7	5.4	6.0	10.8	
36	2.5	9.1	6.3	7.6	6.1	8.8	
38	5.7	8.3	6.1	5.6	6.0	9.4	
39	2.2	8.0	5.1	5.9	5.7	9.3	
40	8.0	7.4	7.2	5.7	5.2	8.6	
43	2.5	7.3	5.1	4.3	4.6	8.5	
44	12.8	1.9	1.5	3.8	4.1	5.7	

Table IV-5. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Oct	
45	2.5	6.3	4.6	4.3	4.4	8.5	
46	13.5	2.1	1.9	3.1	3.9	7.4	
47*	2.3	6.2	4.9	4.1	4.5	8.2	
48	18.3	2.1	1.1	3.2	3.9	5.9	
49	2.2	3.1	6.2	4.1	5.7	9.5	
50	13.8	2.5	0.9	3.1	3.6	5.7	
51	2.5	10.0	7.3	8.6	4.8	11.7	
52	10.9	4.3	0.1	1.2	1.0	6.4	
53	2.7	12.2	7.2	7.8	6.9	9.9	
54	12.9	3.6	0.3	5.4	5.6	9.6	
55	2.8	11.7	6.0	6.5	7.0	11.2	
56	7.2	7.9	3.7	6.0	5.0	10.1	
57	13.5	2.0	0.1	2.3	1.1	8.8	
58	31.4	3.1	0.0	2.5	1.2	6.8	
59	2.7	10.3	7.8	7.5	8.0	10.1	
60	2.6	10.1	6.8	6.7	7.8	10.7	
61	5.4	7.2	6.6	6.0	6.1	9.5	
62	6.9	7.5	5.5	5.8	5.9	7.9	
63	7.9	7.3	7.3	6.0	6.3	9.1	
64	9.3	7.9	7.0	5.0	5.6	8.5	
65	3.1	8.3	7.2	5.8	6.0	8.7	
66	2.7	8.8	7.2	5.4	-	8.2	
67	6.8	6.9	6.1	6.6	5.8	7.5	
68	5.9	6.9	7.5	6.1	5.8	9.9	
70	16.8	3.8	0.4	2.1	3.0	8.1	
71	15.4	2.2	1.0	3.7	3.4	8.7	
72	2.3	5.4	7.3	4.8	5.2	9.3	
73	2.7	4.6	4.5	3.9	5.1	8.8	
74	2.7	5.9	4.9	4.4	5.4	8.6	
75	2.3	6.3	8.0	5.1	4.4	8.2	
76	2.6	6.1	5.7	4.8	4.3	7.9	
77	2.7	6.2	11.4	5.0	4.7	7.8	
78	2.5	7.5	8.7	6.8	4.9	8.1	
79	2.4	10.3	10.1	5.7	11.2	12.3	
80	2.3	7.6	9.3	4.5	6.9	8.9	

Table IV-6. Bottom pH measured at long-term benthic monitoring stations in Chesapeake Bay, December 1984 to October 1987. Dashes indicate missing values.

Station	Average Station Depth	1984		1985									
		Dec	Jan/Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Dec	
01	2.3	8.33	8.49	8.34	8.24	7.97	7.78	7.67	7.34	7.66	7.98	8.30	
02	6.1	8.39	8.57	8.57	8.39	8.00	7.90	7.44	7.34	7.72	7.96	8.35	
03	13.6	8.02	8.57	8.12	8.23	7.72	7.34	7.32	7.23	7.57	7.68	8.28	
04	28.3	7.83	8.70	8.42	8.09	7.79	7.77	7.35	7.28	7.56	7.59	8.18	
05	3.0	8.29	8.78	8.76	8.43	8.35	8.26	7.92	8.09	7.77	7.90	9.01	
06	2.9	8.26	8.44	8.08	8.43	7.96	7.85	7.40	7.24	7.75	7.90	8.16	
07	5.7	8.31	8.64	8.47	8.59	8.08	7.71	7.62	7.33	7.71	8.01	8.35	
08	12.4	8.21	8.60	8.56	7.91	7.69	7.34	7.32	7.22	7.62	7.89	8.25	
09	2.8	8.34	8.59	8.52	8.67	8.10	7.96	7.61	7.23	7.72	7.86	8.30	
10	6.5	8.20	8.61	8.53	8.37	7.81	7.90	7.70	7.26	7.68	8.02	8.57	
11	12.2	8.32	8.70	8.59	7.80	7.70	7.33	7.30	7.21	7.62	7.85	8.28	
12	2.1	8.43	8.45	8.11	8.06	8.00	7.91	8.09	7.23	7.86	8.29	8.30	
13	5.8	8.51	8.71	8.21	8.27	7.69	7.62	7.12	7.56	8.13	8.39		
14	11.7	8.25	8.51	8.45	7.95	7.73	7.38	7.29	7.16	7.56	7.79	8.33	
15	2.2	8.26	8.62	8.41	8.05	8.50	7.95	7.80	7.75	7.90	8.16	8.59	
16	13.7	7.91	8.67	8.41	7.79	8.16	7.52	7.49	7.25	7.96	7.73	8.24	
17	26.7	7.81	8.72	8.55	7.99	7.92	7.56	7.57	7.25	7.64	7.55	8.06	
18	2.7	8.19	8.42	7.94	8.73	8.52	8.20	7.75	7.93	8.16	8.05	8.40	
19	3.1	8.62	8.27	7.38	8.50	8.11	7.97	7.77	7.29	7.89	8.05	8.60	
20	10.6	8.10	8.14	7.58	7.59	7.91	7.39	7.42	7.56	7.71	7.93	8.18	
21	28.8	8.01	8.36	7.66	7.93	7.78	7.56	7.52	7.24	7.57	7.53	8.16	
22	3.9	8.00	-	7.88	7.53	9.22	8.41	7.45	7.04	7.91	7.57	9.23	
23	5.5	8.06	-	8.01	7.48	8.90	7.53	7.63	7.08	7.92	7.65	8.33	
24	6.5	8.06	-	7.98	7.58	8.73	7.29	7.95	7.46	7.68	7.56	8.16	
25	7.0	8.07	-	7.89	8.40	7.57	7.53	7.51	7.79	7.37	8.05	8.17	
26	4.0	8.33	-	7.08	7.42	7.58	7.40	7.58	7.31	7.56	7.75	8.27	
27	5.8	8.12	-	6.89	7.85	7.48	7.47	7.35	7.16	7.40	7.75	8.36	
28	3.6	8.12	-	6.93	8.26	7.57	7.99	8.11	7.47	7.53	7.70	8.40	
29	5.7	8.31	-	7.39	7.46	7.31	7.45	7.25	7.14	7.42	7.43	8.55	
30	2.5	8.50	-	7.10	7.90	7.18	7.32	7.28	7.65	6.90	7.82	9.14	
31	5.7	8.29	-	7.33	7.78	7.26	7.82	7.30	7.20	7.04	7.74	8.19	
32	2.2	8.43	-	7.41	7.66	7.18	7.31	7.98	7.16	7.31	7.51	8.10	
33	8.0	8.50	-	7.84	7.61	7.22	7.33	7.28	7.14	7.22	7.60	7.96	
34	2.5	8.41	8.45	8.13	8.17	7.88	7.41	7.97	7.32	7.30	7.65	8.18	
35	12.8	8.43	8.71	8.09	7.96	7.83	7.21	7.25	7.14	7.31	7.46	7.95	

Table IV-6. Continued

Station	Average Station Depth	1984											1985													
		Dec	Jan/ Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan/ Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
45	2.5	8.48	8.44	7.70	8.54	7.89	7.32	7.87	7.33	7.32	7.79	8.43	46	8.68	8.59	7.88	8.02	7.91	7.23	7.19	7.44	7.68	8.04			
47*	2.3	8.44	8.32	7.40	8.46	8.10	7.24	8.01	7.31	7.34	7.67	8.05	48	8.52	8.80	7.93	8.02	7.93	7.23	7.19	7.16	7.45	7.68	8.06		
49	2.2	8.62	8.40	8.18	9.27	8.98	8.13	8.09	7.76	7.63	7.58	8.23	50	8.38	8.67	7.89	8.17	8.02	7.30	7.22	7.15	7.54	7.56	8.03		
51	2.5	9.16	8.40	8.65	8.91	8.45	8.47	8.27	7.79	7.75	8.02	8.38	52	10.9	8.48	8.40	8.38	7.94	7.77	7.27	7.30	7.20	7.40	7.86	8.01	
53	2.7	8.70	8.54	8.62	8.90	8.40	8.20	8.40	8.20	8.06	7.85	7.75	54	12.9	8.71	8.61	8.58	8.76	7.97	7.52	7.39	7.79	7.73	7.98	8.24	
55	2.8	8.67	8.25	8.44	8.80	8.32	8.31	8.12	8.57	7.73	8.17	8.62	56	7.2	8.66	8.55	8.56	8.86	8.07	8.18	7.88	8.15	7.76	8.42		
57	13.5	8.61	8.44	8.20	8.83	7.81	7.42	7.49	7.36	7.71	8.00	8.24	58	31.4	8.40	8.63	8.59	8.43	7.86	7.68	7.62	7.34	7.70	7.94	8.22	
59	2.7	8.76	8.28	8.60	9.00	8.47	8.14	8.22	8.08	8.04	8.36	8.36	60	2.6	8.71	8.24	8.56	8.57	8.00	7.78	7.95	7.79	8.14	8.36		
61	5.4	8.56	-	8.55	8.60	7.48	7.65	7.69	7.77	7.86	8.04	8.30	62	6.9	8.03	-	7.85	7.39	7.16	7.17	7.29	7.18	7.56	8.70		
63	7.9	8.69	-	7.44	8.66	8.20	7.98	7.79	7.69	8.01	8.29	8.35	64	9.3	8.60	-	7.46	8.61	7.60	7.38	7.60	7.38	7.71	8.11	8.35	
65	3.1	8.61	-	7.30	7.42	7.34	-	-	-	-	-	-	66	2.7	8.16	-	7.90	7.18	7.15	-	-	-	7.84	7.99		
67	6.8	8.72	-	8.33	7.73	7.95	7.58	7.29	7.38	7.83	7.87	8.53	68	5.9	8.71	-	8.22	8.47	7.54	7.32	7.41	7.24	7.55	7.68	8.34	
69	16.8	8.78	8.52	8.80	8.48	7.81	7.49	7.32	7.61	7.68	8.08	8.37	70	15.4	8.88	8.24	8.93	8.82	7.31	7.10	7.41	7.53	7.49	8.62		
71	2.3	8.50	8.14	8.39	8.77	6.66	7.72	7.72	7.22	7.71	7.42	7.15	72	2.5	8.50	8.14	8.39	8.77	6.66	7.72	7.72	7.36	7.22	6.83	7.98	
73	2.7	8.77	-	8.11	8.62	6.94	7.30	7.27	7.43	7.30	7.04	8.29	74	2.7	8.88	-	8.13	8.21	6.92	7.17	7.18	7.52	7.22	6.91	8.22	
75	2.3	9.18	-	7.36	8.40	6.78	7.91	7.08	7.36	7.36	7.22	8.00	76	2.6	9.01	-	7.70	7.54	6.80	7.04	7.56	7.41	7.13	6.81	8.27	
77	2.7	9.34	7.66	6.91	7.85	6.82	7.18	6.98	7.33	7.14	6.82	7.84	78	2.5	8.69	-	7.24	7.02	6.88	7.12	7.01	7.26	6.89	8.40		
79	2.4	8.00	-	6.85	8.25	7.03	7.66	7.56	7.86	7.86	6.63	8.12	80	2.3	7.70	-	6.58	7.10	6.75	7.28	7.13	7.09	6.70	7.68		

* Station 47 relocated in April 1985

Table IV-6. Continued

Station	Average Station Depth	1986						1987					
		Jan/Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr
01	2.3	8.49	8.08	9.44	8.41	7.78	7.89	8.17	8.21	8.22	8.12	8.32	8.33
02	6.1	8.54	8.13	9.40	8.53	7.67	7.90	8.00	8.17	8.14	8.26	8.37	8.32
03	13.6	8.99	8.05	8.76	7.79	7.53	7.38	7.60	8.05	7.93	8.96	8.18	7.89
04	28.3	8.76	7.97	8.83	7.96	7.83	7.36	7.65	7.84	7.92	-	8.19	7.96
05	3.0	8.09	8.05	9.11	8.08	8.24	7.53	7.88	8.03	8.19	-	8.38	8.25
06	2.9	8.44	8.09	9.51	8.36	8.06	7.87	8.08	8.19	8.24	8.13	8.41	8.28
07	5.7	8.37	8.07	9.19	8.52	7.58	7.86	7.94	8.14	8.20	8.24	8.36	8.36
08	12.4	8.55	8.03	8.72	7.80	7.43	7.38	7.58	8.13	7.94	8.20	8.18	7.93
09	2.8	8.44	8.08	9.44	8.49	7.70	7.92	8.33	8.29	8.26	8.14	8.34	8.31
10	6.5	8.55	8.09	9.35	8.42	7.44	7.99	7.99	8.29	8.21	8.23	8.36	8.42
11	12.2	8.60	7.99	8.73	7.71	7.49	7.39	7.57	8.15	7.92	8.18	8.25	7.95
12	2.1	8.58	8.12	9.45	8.47	7.22	8.00	8.23	8.23	8.15	8.67	8.36	8.43
13	5.8	8.57	8.09	9.40	8.34	7.23	7.74	7.98	8.11	8.06	9.09	8.37	8.34
14	11.7	8.67	8.01	8.75	7.69	7.47	7.34	7.51	8.07	7.90	7.78	8.20	8.09
15	2.2	8.60	8.08	9.32	8.61	7.97	8.13	7.93	8.07	7.87	6.90	8.38	8.14
16	13.7	8.52	7.91	8.91	7.76	7.43	7.35	7.60	7.76	7.84	7.47	8.24	7.87
17	26.7	8.22	7.84	8.86	7.91	7.72	7.35	7.54	7.79	7.88	8.91	8.17	7.83
18	2.7	8.32	8.08	8.81	8.29	7.94	7.94	7.78	8.03	7.89	-	8.42	8.48
19	3.1	8.35	8.09	9.40	8.41	7.19	8.23	7.98	8.04	7.71	-	8.43	7.88
20	10.6	8.23	7.95	8.67	7.61	7.30	7.34	7.39	7.80	7.56	-	8.03	7.63
21	28.8	8.19	7.82	8.89	7.83	7.74	7.34	7.46	7.69	7.87	-	8.16	7.77
22	3.9	7.99	7.75	9.15	7.80	8.10	7.76	7.34	7.45	7.51	-	7.71	7.42
23	5.5	8.01	7.81	8.66	7.93	7.93	7.41	7.73	7.68	7.72	-	7.68	7.33
24	6.5	8.05	7.92	7.86	7.42	7.35	7.31	7.46	7.51	7.73	-	7.91	7.17
25	7.0	8.11	8.03	7.93	-	7.05	7.28	7.85	8.08	7.75	-	7.76	7.30
26	4.0	7.90	7.81	7.95	7.56	7.35	7.82	7.65	7.58	7.56	-	7.83	7.39
27	5.8	-	7.80	8.73	7.86	7.32	7.55	7.90	7.66	7.54	-	7.68	7.41
28	3.6	-	7.78	8.57	8.36	7.25	8.38	8.22	7.75	7.64	-	7.65	7.39
29	5.7	-	7.78	7.80	7.65	7.17	7.74	7.87	7.79	7.50	-	8.04	7.45
30	2.5	8.83	8.40	8.35	8.31	7.25	7.25	7.46	7.63	7.76	-	8.50	7.80
31	5.7	8.56	7.84	7.88	7.73	7.65	7.16	7.46	7.42	7.65	-	7.68	7.48
32	2.2	8.31	7.80	7.65	7.65	7.38	7.13	7.57	7.55	7.72	7.83	8.11	7.37
33	8.0	8.47	7.89	7.52	7.70	7.30	7.17	7.63	7.56	7.73	7.39	8.01	7.36
34	2.5	7.73	8.38	7.50	8.57	7.41	7.26	7.77	7.62	7.82	8.09	7.99	7.60
35	12.8	8.22	8.12	7.78	8.10	7.20	7.10	7.33	7.66	7.84	8.13	8.39	7.43

Table IV-6. Continued

Station	Average Station Depth	1986						1987					
		Jan/ Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec	Jan	Mar	Apr
45	2.5	7.74	8.28	7.47	8.43	7.35	7.30	7.78	7.65	7.86	8.17	8.09	7.57
46	13.5	8.25	8.19	7.80	8.08	7.17	7.11	7.74	7.66	7.83	8.30	8.48	7.42
47*	2.3	7.71	8.32	7.50	8.38	7.39	7.33	7.73	7.67	7.87	8.08	8.28	7.55
48	18.3	8.46	8.09	7.88	8.08	7.26	7.12	7.84	7.67	7.85	8.34	8.39	7.47
49	2.2	8.57	8.60	7.89	8.76	8.04	7.65	8.31	7.76	8.37	8.05	8.18	7.55
50	13.8	8.61	8.13	7.90	8.22	7.21	7.13	-	7.76	7.89	8.29	8.08	7.46
51	2.5	8.89	8.38	8.56	8.61	7.88	8.01	7.97	8.06	8.43	8.36	8.65	8.49
52	10.9	8.51	7.96	8.55	8.14	7.26	7.27	8.00	7.97	7.96	8.32	8.43	8.23
53	2.7	8.33	8.22	8.74	8.25	8.42	7.93	8.16	7.99	8.17	8.33	8.87	8.79
54	12.9	9.07	8.14	8.68	8.29	7.80	7.31	7.96	8.04	7.89	8.22	8.87	8.20
55	2.8	8.60	8.20	8.64	8.31	8.23	8.23	8.05	8.06	8.08	8.29	8.80	8.71
56	7.2	8.41	8.14	8.62	8.41	8.11	8.06	7.89	8.08	8.06	8.28	8.91	8.54
57	13.5	9.42	8.12	7.96	8.40	7.65	7.23	8.03	7.87	8.03	8.32	8.93	8.31
58	31.4	8.45	7.97	8.18	8.29	7.57	7.34	7.75	7.71	7.86	-	9.14	7.97
59	2.7	8.43	8.12	8.74	8.20	8.21	8.26	8.15	8.10	8.01	-	8.60	8.94
60	2.6	8.49	8.03	8.29	8.18	7.91	7.91	8.12	8.14	8.03	-	8.59	8.93
61	5.4	8.47	7.88	8.33	7.90	7.66	7.82	7.98	8.57	7.95	-	8.91	8.86
62	6.9	7.80	7.33	7.39	7.70	7.18	7.10	7.60	7.66	7.44	-	8.83	7.59
63	7.9	8.31	8.10	7.78	7.78	7.85	7.64	7.94	7.87	8.06	-	8.10	8.28
64	9.3	8.79	8.18	7.94	8.16	7.70	7.65	7.71	7.79	7.88	-	8.52	7.79
65	3.1	-	8.19	7.93	8.38	7.42	7.75	7.60	7.55	7.62	-	8.09	7.52
66	2.7	-	7.20	7.11	7.95	7.31	7.14	7.81	7.76	7.02	-	7.06	7.11
67	6.8	8.10	8.07	7.65	-	7.43	7.31	7.81	7.66	8.26	-	7.68	7.41
68	5.9	8.34	8.22	7.69	-	7.22	7.14	7.70	7.69	8.16	-	7.88	7.42
70	16.8	9.05	8.25	8.16	8.03	7.33	7.30	7.85	7.95	7.95	-	8.92	8.32
71	15.4	9.16	8.15	8.13	8.13	7.18	7.38	7.82	7.87	8.17	8.26	9.47	8.30
72	2.3	9.33	8.31	8.18	8.44	7.22	7.90	7.59	7.71	8.06	8.62	8.89	7.72
73	2.7	8.99	8.22	7.97	8.15	7.34	7.45	7.68	7.62	8.10	8.48	8.69	7.69
74	2.7	8.97	7.84	7.61	8.04	7.11	7.62	7.59	7.55	8.06	8.57	8.66	7.50
75	2.3	8.48	7.68	7.54	7.95	7.00	7.51	7.81	7.50	7.86	8.84	8.57	7.45
76	2.6	8.05	7.57	7.47	7.91	7.25	7.51	7.54	7.50	7.72	8.49	8.50	7.41
77	2.7	8.24	7.43	7.41	7.94	7.10	7.45	7.50	7.42	7.78	7.96	7.37	7.33
78	2.5	8.08	7.30	7.66	8.24	7.06	7.16	7.29	7.35	7.26	-	7.55	7.19
79	2.4	7.55	7.21	7.17	8.56	7.09	7.33	7.52	7.45	7.08	-	7.47	7.09
80	2.3	7.64	7.10	7.08	7.22	6.95	7.12	7.66	7.07	7.08	-	7.50	7.15

* Station 47 relocated in April 1985

Table IV-6. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Oct	
01	2.3	8.73	8.24	7.95	7.79	7.91	
02	6.1	8.74	8.23	8.02	8.00	7.67	
03	13.6	7.74	7.79	7.53	7.59	-	
04	28.3	7.75	7.78	7.50	7.70	-	
05	3.0	8.56	8.58	7.90	8.15	8.58	
06	2.9	8.75	8.15	7.85	7.69	7.79	
07	5.7	8.69	8.07	8.00	8.03	7.63	
08	12.4	7.65	7.78	7.48	7.51	7.89	
09	2.8	8.73	8.38	8.02	7.50	8.08	
10	6.5	8.71	8.21	7.85	7.73	7.46	
11	12.2	7.66	7.75	7.49	7.50	7.77	
12	2.1	8.61	7.74	8.29	8.00	7.67	
13	5.8	8.65	7.81	7.89	7.82	7.46	
14	11.7	7.58	7.77	7.49	7.52	7.89	
15	2.2	8.66	8.08	7.97	8.39	8.03	
16	13.7	7.48	7.50	7.38	7.67	7.97	
17	26.7	7.49	7.66	7.54	7.78	-	
18	2.7	7.90	7.72	8.16	8.01	8.39	
19	3.1	8.88	7.33	7.77	8.08	8.78	
20	10.6	7.33	7.40	7.25	7.54	7.85	
21	28.8	7.33	7.53	7.49	7.70	7.97	
22	3.9	8.31	7.42	7.48	7.32	7.89	
23	5.5	7.80	7.34	7.32	7.62	8.04	
24	6.5	7.35	7.34	7.15	7.58	7.79	
25	7.0	8.49	7.28	7.33	7.43	8.10	
26	4.0	7.88	7.31	7.27	7.30	7.72	
27	5.8	7.84	7.28	7.17	7.27	7.63	
28	3.6	8.15	8.41	7.44	7.60	7.76	
29	5.7	7.79	7.06	7.10	7.26	8.76	
36	2.5	7.87	7.46	7.60	7.37	7.77	
38	5.7	7.28	7.29	6.88	6.69	7.73	
39	2.2	7.45	7.22	6.81	6.94	7.84	
40	8.0	7.44	7.20	6.80	7.07	7.72	
43	2.5	7.64	7.36	7.07	7.33	7.82	
44	12.8	7.31	7.29	7.15	7.42	7.70	

Table IV-6. Continued

Station	Average Station Depth	1987					
		May	Jun	Jul	Aug	Oct	
45	2.5	7.57	7.36	7.07	7.37	8.04	
46	13.5	7.31	7.30	7.03	7.43	7.95	
47*	2.3	7.55	7.42	7.09	7.39	7.91	
48	18.3	7.38	7.30	7.06	7.43	7.73	
49	2.2	7.46	7.83	7.35	7.59	8.29	
50	13.8	7.45	7.31	7.10	7.46	7.71	
51	2.5	8.96	8.23	8.27	7.88	8.55	
52	10.9	8.08	7.64	7.25	7.42	7.84	
53	2.7	9.12	8.38	8.03	8.21	8.30	
54	12.9	8.03	7.96	7.74	8.09	8.29	
55	2.8	9.14	8.38	7.64	8.21	8.47	
56	7.2	8.64	8.27	7.64	7.95	8.35	
57	13.5	7.77	7.84	7.15	7.51	8.25	
58	31.4	8.01	7.82	7.51	7.77	7.95	
59	2.7	8.89	8.83	8.80	8.27	8.33	
60	2.6	8.87	8.04	7.78	8.32	8.40	
61	5.4	7.88	7.84	7.62	7.94	8.25	
62	6.9	7.09	7.16	7.03	7.44	7.57	
63	7.9	7.87	8.02	7.92	7.88	8.01	
64	9.3	7.65	7.72	7.40	7.70	7.77	
65	3.1	7.75	7.52	7.34	7.63	7.47	
66	2.7	7.30	7.19	6.99	-	7.10	
67	6.8	7.45	7.37	7.75	7.66	7.82	
68	5.9	7.43	7.64	7.21	7.05	7.64	
70	16.8	7.89	7.79	7.08	7.61	7.88	
71	15.4	7.44	7.34	7.37	7.45	7.93	
72	2.3	7.58	7.71	7.36	7.34	7.80	
73	2.7	7.50	7.17	7.18	7.11	7.42	
74	2.7	7.38	7.14	7.11	6.93	7.07	
75	2.3	7.34	7.75	6.97	6.57	6.84	
76	2.6	6.11	7.11	6.90	6.53	6.72	
77	2.7	7.23	8.39	6.75	6.72	6.77	
78	2.5	7.24	7.58	7.17	6.95	7.08	
79	2.4	7.62	7.63	7.05	8.08	8.32	
80	2.3	7.00	7.12	6.86	7.16	7.16	

Table IV-7. Mean sand and silt/clay content and standard deviation over the study period. Stations are ordered from highest to lowest silt/clay content.

Station	Substrate	Sand		Silt/Clay	
		Mean	Standard Deviation of Mean	Mean	Standard Deviation of Mean
040	Mud	3.2069	3.0793	96.7966	3.0817
024	Mud	4.0964	2.7180	95.9036	2.7180
038	Mud	4.4393	4.1147	95.5679	4.1147
016	Mud	5.0200	3.0111	94.9867	3.0075
020	Mud	5.0862	2.8936	93.1897	9.3712
076	Mud	5.1100	2.0285	94.8967	2.0273
077	Mud	5.4733	2.2405	94.5333	2.2404
021	Mud	5.6966	3.9234	94.3069	3.9253
050	Mud	6.2931	6.2001	93.7103	6.2005
046	Mud	6.5967	3.1603	93.4067	3.1660
017	Mud	6.8571	4.2131	93.1464	4.2141
074	Mud	6.9600	3.9938	93.0467	3.9988
014	Mud	6.9933	4.7799	93.0067	4.7799
052	Mud	7.0800	5.1824	92.9267	5.1839
067	Mud	7.1778	4.6828	92.7889	4.7283
044	Mud	7.3833	3.1315	92.6200	3.1315
026	Mud	7.5321	12.3780	92.4750	12.3804
064	Mud	7.6821	3.9041	92.2821	3.9022
003	Mud	7.7900	4.1485	92.2100	4.1524
071	Mud	8.2655	4.3157	91.7345	4.3106
070	Mud	8.3379	4.3896	91.6655	4.3931
011	Mud	8.5700	5.4471	91.7367	5.2500
008	Mud	8.7333	5.0002	91.2733	5.0009
079	Mud	9.6857	8.7911	90.3179	8.7924
078	Mud	10.5276	7.2149	89.4759	7.2161
023	Mud	11.2036	7.4106	88.8036	7.4164
063	Mud	11.2464	5.1586	88.7571	5.1652
048	Mud	11.3100	8.4341	88.6900	8.4341
062	Mud	13.2821	5.5508	86.7143	5.5479
066	Mud	14.7391	6.3441	85.2609	6.3428
075	Mud	14.9267	5.9794	85.0767	5.9827
054	Sandy Mud	16.7633	7.0856	83.2400	7.0863
073	Sandy Mud	17.4700	10.9118	82.5267	10.9157
068	Sandy Mud	17.5593	14.0926	82.4444	14.0949
058	Sandy Mud	17.6138	25.1644	82.3897	25.1662

Table IV-7. Continued

Station	Substrate	Sand		Silt/Clay	
		Mean	Standard Deviation of Mean	Mean	Standard Deviation of Mean
022	Sandy Mud	21.2357	15.3801	78.7607	15.3824
025	Sandy Mud	23.9000	9.3503	76.1000	9.3498
065	Sandy Mud	24.5565	6.5056	75.4478	6.5070
004	Sandy Mud	26.2069	30.8129	73.7897	30.8109
061	Sandy Mud	29.0071	13.3567	72.8679	12.7551
036	Sandy Mud	29.9893	13.7809	70.0143	13.7835
057	Sandy Mud	32.3833	22.1848	67.6167	22.1848
029	Sandy Mud	32.6148	12.0256	67.3926	12.0252
027	Sandy Mud	36.4000	8.4733	63.6148	8.4880
072	Sandy Mud	38.7400	10.4059	61.2633	10.4093
028	Sandy Mud	53.2111	12.9201	45.3185	15.3242
039	Muddy Sand	60.8759	20.8730	39.1276	20.8604
080	Muddy Sand	65.5310	15.4007	34.4690	15.4007
060	Muddy Sand	68.5310	10.7936	31.4759	10.7971
019	Muddy Sand	87.7000	4.8167	12.4034	4.9408
010	Sand	91.0900	5.4286	8.9133	5.4271
047	Sand	92.9414	4.1556	7.0655	4.1533
043	Sand	94.5333	1.7405	5.4700	1.7432
002	Sand	94.7655	18.7323	5.0600	18.3939
045	Sand	95.7833	1.45959	4.22000	1.4599
049	Sand	96.2600	2.82252	3.73667	2.8268
005	Sand	97.1966	1.36211	2.80345	1.3621
051	Sand	97.8767	0.72239	2.12667	0.7182
007	Sand	97.9733	0.93585	2.03333	0.9290
018	Sand	98.1759	0.78497	1.83103	0.7978
015	Sand	98.2767	0.60611	1.72333	0.6061
001	Sand	98.4900	2.65841	1.51333	2.6579
013	Sand	98.6032	0.59581	1.39677	0.5958
055	Sand	98.6500	0.45845	1.35667	0.4659
053	Sand	98.6586	0.45788	4.58667	17.7433
006	Sand	98.6900	2.23365	1.31333	2.2334
056	Sand	98.6966	0.43955	1.29655	0.4412
012	Sand	98.7133	0.62186	1.29000	0.6205
009	Sand	99.1333	0.31441	0.86667	0.3144
059	Sand	99.1690	0.37712	0.83103	0.3733